AN ANALYSIS OF THE REGULATORY FRAMEWORK FOR MITIGATING CLIMATE CHANGE IN THE OIL AND GAS SECTOR IN UGANDA

BY

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DECLARATION

I, Rebecca Nabatanzi, hereby declare that this is my original work and it has not been submitted in this form or any other form to this or any other institution for examination purposes. Any quotation made has been referenced accordingly.

Signature  Date: 13/July/ 2020

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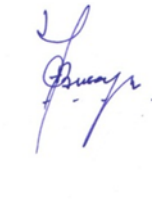
APPROVAL

This is to certify that this dissertation has been produced by REBECCA NABATANZI under my supervision and submitted to Uganda Christian University in partial fulfillment for the award of Masters of Laws in Oil and Gas.



Signature Date: 13/July/ 2020

ASSOC. PROF. GODARD BUSINGYE, LLD

DEDICATION

I dedicate this piece of work to God and my family (Mr. Alex Nathan Sserwanga; Abigail Alexa Sserwanga, Andrew Alvin Sserwanga and Ariella Anna Sserwanga).

ACKNOWLEDGEMENT

First, I take this opportunity to appreciate God for His mercies, unending love and provision that have all worked together to see that what was started is brought to a logical conclusion.

I appreciate the immense and unwavering support of my Husband, Mr. Alex Nathan Sserwanga and the understanding from our little beloved children: Abigail Sserwanga and Andrew Sserwanga. You bore a lot just so we could attain this achievement together!

To my parents, I would like to thank you for laying the good foundation on which I continue to build. Thank you for your continuous words of encouragement. I appreciate my siblings too for their support in this journey.

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May God reward you all!

ACRONYMS AND ABBREVIATIONS

EIA	Environmental Impact Assessment
GHG	Green House Gases
IOC	International Oil Company
NOC	National Oil Company
PAU	Petroleum Authority of Uganda
SEA	Social and Environmental Assessment
UNOC	Uganda National Oil Company

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ABSTRACT

Whereas Uganda ratified the Paris Agreement and by this committed to efforts to act on climate change, the nascent oil and gas sector may be a counter move especially in the context of an oil and gas regulatory framework that is not climate proofed. To examine how responsive Uganda's oil and gas sector regulatory framework is to climate change, this study was conducted. The findings show that the oil and gas regulatory framework was developed at a time when climate change issues were not fully appreciated. Most oil and gas regulations of 2016 make reference to the 1995 National Environment Act (NEA), the overarching environmental law which was recently repealed to among others provide for emerging issues like climate change. It, therefore, becomes critical for the said regulations to be expeditiously revised and aligned with the 2019 NEA. The NEA, being largely a framework law, appears thin on the oil and gas specifics which, therefore, points to the need for sector specific (in this case the energy sector) climate change mainstreaming guidelines as provided for in the Climate Change Policy 2015. Enactment of a climate change law would be very pivotal in fast tracking this policy provision which has hitherto remained unimplemented by most sectors.

CHAPTER ONE

GENERAL BACKGROUND

1.0 Introduction

Located in the humid equatorial climate zone, Uganda is prone to many natural and anthropogenic hazards. Approximately 80% of the disasters witnessed are climate induced. According to the 2016 National Development Gain Index (NDGI)[1], Uganda ranks 155 out of 178 countries and 14th most vulnerable country and the 48th least ready country in the World to hydro-meteorological hazards– meaning that it is very vulnerable to, yet very unready to combat hazards such as droughts, floods, hailstorms among others. Uganda's households are vulnerable to disaster effects because of low literacy levels, high poverty levels, female-headed families, and other social characteristics such as women, children and elderly. It is important to note that the effect on women, children, the sick and the elderly is even more pronounced.

For Uganda, it therefore follows that watching or inaction is not an option in addressing climate change. In line with the 2015 Paris Agreement on climate change, concrete and deliberate efforts must be devised to address climate change and its associated hydra headed challenges. The country has indeed advanced in this direction albeit with a focus on adaptation and creating an enabling policy framework. Indeed, Uganda can be described as a front runner in this regard. On the contrary however, commercial oil discovery, although an opportunity, has potential to harm the environment and enhance climate change effects. The looming question currently is '' Can Uganda exploit her oil and gas resources and deliver on climate targets at the same time?

Uganda is currently described by the World Bank as the hottest inland exploration frontier in the world and the country to watch in the oil and gas space, due to the commercial discovery of an estimated 6.5 billion barrels of oil, 1.4 billion of which are recoverable.[2] Indeed activities are in high gear to ensure that production begins in 2020. Whereas a positive development especially in view of the much desired attainment of the middle-income status by 2020, the oil is in environmentally sensitive areas which are already threatened by climate change. The Albertine Graben for example is flagged as a seismically prone area.[3] This same region, well

[1] The ND-GAIN Country Index summarizes a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. http://gain.nd.edu/our-work/country-index/.
[2] Marion Angom & Fiona.N. Magona, 'State of oil and gas in Uganda-2017' (MMAKS Advocates, 31 July 2017) < www.mmaks.co.ug/ug/articles/2017/07/31/state-oil-and-gas-uganda-2017> accessed 4 May 2019.
[3]Joseph Kimuli Balikuddembe, Ali Ardalan, 'Disaster Risk Management and Oil Production in Uganda: An Input Paper for the Global Assessment Report on Disaster Risk Reduction 2015 (2014).

known for being one of the richest biodiversity hot spots in Africa in terms of mammals, birds and other species, houses two World Heritage Sites, seven out of ten game reserves in Uganda, two Ramsar Sites, shared water resources such as Lake Albert and River Nile, timber, water, fish, fertile soils, minerals, wildlife, good climate and others.[4] It is imperative that the oil and gas sector is developed in such a way so as not to exacerbate climate change.

1.1 Background to the study

Burning of fossil fuels including oil and gas is one of the greatest contributors of climate change. Whereas there is no doubt that fossil fuels have fueled global economic development for centuries, the activities of the oil and gas industry along the entire value chain have led to an increase in the amount of greenhouse gases resulting in climate change and a plethora of challenges. The oil industry is one of the most powerful and global business sectors today[5] and accounts for over half of global GHGs associated with energy consumption[6]. When analyzing the impact of the oil and gas sector, it is important to critically assess the entire value chain taking cognizance of the upstream, midstream and downstream sectors. Isa through his analysis of GHG Emissions and Oil & Gas Revenue makes important observations namely: The production of oil and oil related products undergoes various processes in the upstream sector of the industry. Associated natural gas which is a by-product of the extractive phase is considered more as a waste product than an economic resource due to the costly nature of converting associated gas into commercial gas. For this reason, in order to enhance cost effectiveness, excess gas from drilling associated with natural gas or oil is deliberately burned off, releasing carbon dioxide emission (CO2), into the atmosphere; conversely venting of the gas without burning, releases methane emission (CH4). Together, these gases make up about 80% of greenhouse gases associated with oil & gas to date. [7] Isa also mentions gas venting (the deliberate release of associated gas as gas, rather than burning which usually occurs from leaks in pipelines either due to vandalization or during the production phase) which gives rise to methane and volatile organic compound emissions. As a result, the contribution of methane as a GHG to climate change has greatly increased. Methane is responsible for at least a quarter of

[4] Oil watch Africa, 'Oil Production in Africa: Livelihoods and Environment at Stake, Should Oil Rather Remain in the Ground?' (2010) <https:www.nape.or.ug> Accessed May 2019.
[5] Sybille van den Hove, Marc Le Menestrel and Henri-Claude de Bettignies,' The oil industry and climate change: strategies and ethical dilemmas' (2002) 2(3-18).
[6] Disclosure Insight Action, <https://www.cdp.net/en/investor/sector-research/oil-and-gas-report> accessed 22 July 2019.
[7] Rehanet, I, 'Greenhouse Gas (GHG) Emissions and Oil & Gas Revenue in Nigeria (2014) Academic Journal of Interdisciplinary Studies. 3(7) accessed 4th June 2019.

global warming and is over 80 times more powerful than carbon dioxide as a warming gas over a twenty-year time frame. According to the Intergovernmental Panel on Climate Change, accelerated reductions in methane emissions must come by 2030 to have any chance of meeting the 1.5°C global temperature target—or even the 2°C target. Even better, actions to reduce emissions now can have a faster impact on the rate of temperature increases than actions on carbon dioxide. In Mark Radka, Head of UN Environment's Energy and Climate Branch's words, "The oil and gas sector, which is increasingly recognizing the importance to act on climate change, can make a big difference by virtually eliminating methane emissions."[8]

The 2015 land mark Climate Agreement in Paris was a major step in recognizing the global urgency of the crisis.[9] Whereas it is critiqued for its non-binding nature, the agreement makes an attempt to shift from the top-down approaches characterized by binding targets, time tables and deadlines, naming and shaming to more voluntary means of achieving emission reductions. Indeed, besides the role of the States, the contribution of non-state actors, private sector, indigenous groups among others has been emphasized. This has further affirmed that 'every effort counts in addressing climate change and its hydra headed challenges. It is not surprising that even the oil companies that previously 'buried their heads in the sand' some even refuting the science, have since logged onto the cause of addressing climate change and making their contributions as well.

In a rather ambitious way however, some enthusiasts have posited that in order to keep climate change in check, there is need to keep carbon in the ground arguing that in order to limit global warming to even 2°C, 80% of the fossil fuels that is already accessible must stay in the ground. The implication is no major new fossil fuel projects, phasing out existing fossil fuel production and consumption by the middle of the century and replacing them with cleaner and low carbon development pathways.

For Uganda's nascent oil and gas sector, this narrative would spell doom to the much-anticipated development and economic opportunities that the sector promises.

With oil production in view, there are a number of critical environmental present and future challenges that require serious attention and these include :Habitat degradation, biodiversity

[8] "Methane's atmospheric lifespan is only around 10 years, much less than carbon dioxide's. Both require attention as one dictates how fast the planet warms and the other how warm it gets. The leverage of methane emission reductions, however, is that a steep decline in emissions can help to limit temperature increases now," - Environment Defense Fund's Chief Scientist Steven Hamburg in UN Environment 2019.

[9] The Paris Agreement calls for all countries to limit the rise in global temperature to less than 2 degrees and to further ensure that the rise does not exceed 1.5 degree Celsius above pre- industrial levels.

loss and migration of wildlife through (pollution (soil, water, noise) which can lead to disappearance of endemic species; loss of habitats due to construction works of access roads, camps, facilities, pipelines among others; Loss of indigenous knowledge and culture, Loss of fossil and archaeological material and Climate change and Air Pollution); Increased resource pressure on fisheries and biological resources; Oil spill management; Waste management (waste from people, fisheries oil and gas); Land disputes and land speculation; Uncoordinated land use planning; health issues and migration among others . Evidently, these challenges cut across a number of sectors.

Previous studies have indicated that existing legislation, guidelines and policies that provide for environment pollution control and aspects in other sectors are inadequate for petroleum operations and therefore need to be updated. Great strides have since been registered in this regard most notably the enactment of the National Environment Act, 2019. The Act that repealed the I995 National Environment Act, Cap.153 presents a law that is cognisant of emerging challenges and in tandem with other government laws. This position is further affirmed by a statement made by a member of the Parliamentary Committee on Natural Resources during the bill process when he noted that, 'the current law (referring to the 1985 Act) is too weak to address some of the new emerging issues especially in the oil and gas sector..''[10]

Previous studies have pointed to the need for an overhaul of the legal framework citing the current weak provisions as regards to penalties to be given to the culprits in addition to totally obsolete provisions, but the focus has largely been placed on the oil and gas-environment nexus. Indeed, a number of policies and laws have since been put in place and others reviewed yet there still exists gaps and challenges. The question of climate change has not received as much attention or rather has been 'blanketed' in environment policy discourses. Whereas it is useful for the policy and legal framework to address itself to the oil and gas industry and the environment generally, there is need for a deliberate focus on the all-time challenge of climate change. Indeed, even a number of International oil companies that are most often involved in oil exploitation activities and that had for long lived in 'climate change denial', have since presented a radical shift. The big actors in the sector—BP, Chevron, ExxonMobil, Saudi Aramco, Shell, Total and others have banded together in the Oil and Gas Climate Initiative

[10]Samuel Nabwiso, 'MPs Begin Discussions on Environmental Bill 2017' *Chimp Reports* (Kampala, 27 February 2018).

(OGCI), which has funded initiatives to reduce climate change emissions. With profit maximization being their most obvious goal, their motivations around climate change initiatives however, remain unclear and this makes it very important to regulate their activities if the goal of limiting global warming to 1.5 degrees" Celsius as per the Paris Agreement is to be attained.

1.2 Statement of the Problem

Whereas Uganda ratified the Paris Agreement and by this committed to efforts to act on climate change, the nascent oil and gas sector may be a counter move in this regard as burning of fossil fuels is responsible for the global warming that the world is currently witnessing. Without a proper policy and regulatory enabling environment, the situation is likely to be exacerbated. Effective climate risk management calls for strong policies to limit GHG emissions across sectors and countries taking cognizance of their national circumstances. The reality for Uganda however is that a number of oil and gas laws and institutional frameworks were premised on the National Oil and Gas Policy of 2008 which provides for environmental matters in a more general sense. This has therefore presented a misalignment of the oil and gas regulatory framework with the current realities and challenges like climate change. The development of the oil and gas sector is therefore moving at a speed that is likely to outpace climate change regulation and if not well aligned, Uganda risks not delivering on its nationally determined contributions to address climate change and thus adding to the 'oil curse' statistic. The double nascent stages of the oil and gas sector and climate change however present opportunities for alignment to address the cited regulatory gaps. This research seeks to conclude with possible policy options for addressing this critical issue.

1.3 Objectives of the Study

1.3.1 Main Objective

The objective of the study is to analyse the regulatory framework for the oil and gas sector in regard to climate change mitigation in Uganda.

1.3.2 Specific Objectives

The specific objectives of the study are:

i. To analyse the responsiveness of the regulatory framework for the oil and gas sector to climate change mitigation in Uganda.

ii. To discuss the international legal framework related to climate change in the oil and gas sector.
iii. To examine the national legal framework regarding climate change in the oil and gas sector in Uganda.

1.4 Research Questions

i) How responsive is the regulatory framework for the oil and gas sector to climate change mitigation in Uganda?

ii) What international legal framework addresses climate change in the oil and gas sector

iii) What national legal framework addresses climate change in the oil and gas sector in Uganda.

1.5 Justification of the Study

In cognizance of the increasing and devastating impacts of climate change brought about by increased levels of greenhouse gases from anthropogenic sources like oil and gas activities, it is important to put in place mitigation actions to counter the resulting effects. The starting point is ensuring a climate sensitive regulatory framework for oil and gas activities. The study will analyze the extent to which climate change mitigation has been integrated in the regulatory framework and make recommendations for a more climate proofed and sustainable oil and gas sector.

1.6 Significance of the Study

Previous studies have largely focused on the oil and gas-environment nexus. Indeed, a number of policies and laws have since been put in place and others reviewed yet there still exists gaps and challenges. The question of climate change has not received as much attention or rather has been 'blanketed' in environment policy discourses. This study seeks to tease out the climate change ramifications from Uganda's nascent oil and gas sector given the current regulatory framework. The findings will: inform policy and decision makers, will enrich the subsequent communications of Uganda's Nationally Determined Contributions (NDCs) and will help

Uganda consolidate its 'front runner' position in climate action having been the first country to sign off the 3 year NDC Partnership Plan for Climate Action in Africa.[11]

1.7 Scope of the study

1.7.1 Geographical Scope

The study was conducted in Uganda with a focus on international, regional and national regulatory frameworks.

1.7.2 Subject Scope

The study will consider three oil companies – UNOC, CNOOC and Total Uganda and will restrict itself to climate change policies at national and global level.

1.7.3 Time Scope

The recent discovery of oil and gas was made in 2006. For the purpose of this study, data and information from 2006 to 2020 is used. Despite this recent discovery, there are earlier ones that were made and that led to the formulation of a regulatory framework which has since been revised. These too were reviewed.

1.8 Theoretical framework

The following theoretical frameworks guided the study

Policy network analysis which focuses on relationships among policy actors and the ways in which actors use their position in the network to influence policy.[12] Using this analysis, I unpacked questions to do with who are the policy actors in oil and gas versus climate change, their levels of influence, their resources and strategies, do they have coalitions among them? How do international oil and gas regulatory regimes for example influence national regulatory frameworks and similarly how does the global climate change governance shape national regulatory frameworks?

[11]Climate Change Department, 'Uganda signs off NDC Partnership Plan' (Climate Change Department, Ministry of Water, 17 September 2018) <http://ccd.go.ug/2018/09/17/uganda-signs-off-ndc-partnership-plan/> accessed 6 June 2019.

[12] Wasserman, S., and Faust, K, 'Social Network Analysis, Methods and Applications', *Cambridge University Press*, 1994.

To further understand what shaped the national legislation, the advocacy coalition framework theory was used.[13] This unpacked the role of different actors within the policy subsystem for example the role of civil society organizations in pushing for environmental concerns (albeit neglecting climate change). Similarly, this theory was used to explain the strategies (including motivation and role) of oil companies in addressing climate change. The study also used an interpretive policy analysis to further investigate how the issue of climate change was framed during policy development.[14]Interpretative policy analysis focuses on problem representation, and how the framing of the policy problems shapes the array of possible policy responses. The question is, 'was climate change blanketed in the environmental provisions?' Is it not a very critical problem to have its own policy provisions? Is the magnitude and intensity of current climate change and attendant disasters a policy window to integrate climate change regulation within the oil and gas sector? Using 'What's the problem represented to be?' framework, the study analyzed the ideas and frames within submissions to government, consultancy studies, stakeholder consultative meeting minutes to understand how the climate change issue was considered during policy development.

1.9 Arrangement of Chapters

Chapter One presents the general introduction, background, problem statement, objectives, research questions, significance and scope of the study; Chapter two presents the literature reviewed in light of the study; Chapter Three is the methodology; Chapter Four discusses the findings on the contribution of the oil and gas sector to greenhouse gas emissions and climate change; Chapter Five discusses the international legal framework related to climate change and oil and gas; Chapter Six discusses the national legal framework on climate change and oil and gas and Chapter Seven closes with the summary of findings, conclusion and recommendations.

1.10 Operational Definitions of key terms used in the study

Climate change: change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods

Greenhouse gases: Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the

[13] Sabatier, P 'An Advocacy Coalition Framework of policy change and the Role of policy-oriented learning therein' *Policy Sciences* 21, 129-168(1988).
[14] Fischer *et al*, 'Interpretative Approaches to Policy Studies: Developments, Challenges and Ways', 2015.

spectrum of thermal infrared radiation emitted by the Earth's surface, the atmosphere itself, and by clouds. This property causes the greenhouse effect.[15]

Mitigation: A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs).[16]

[15] IPCC, 'Definition of Terms used within the DDC pages'<https://www.ipcc-data.org/guidelines/pages/glossary/glossary_fg.html accessed 4th July 2019.

[16] IPCC, 'Definition of Terms used within the DDC pages'< IPCC, 'Definition of Terms used within the DDC pages'<http://www.ipcc-data.org/guidelines/pages/glossary/glossary_lm.html accessed 4th July 2019 accessed 4th July 2019.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Whereas there is no doubt that fossil fuels have fueled global economic development for centuries, the activities of the oil and gas industry along the entire value chain have led to an increase in the amount of greenhouse gases resulting in climate change and a plethora of challenges. The oil industry is one of the most powerful and global business sectors today[17] and accounts for over half of global GHGs associated with energy consumption[18].The climate change conversation has, however, largely tended to focus on carbon dioxide (CO2). In 2016, emissions of carbon dioxide (CO2) produced from burning fossil fuels for energy were equal to 76% of total U.S. anthropogenic GHG emissions (based on global warming potential) and about 94% of total U.S. anthropogenic CO2 emissions. Carbon dioxide emissions from other anthropogenic sources and activities were about 5% of total GHG emissions and about 6% of total CO2 emissions.[19]

When analyzing the impact of the oil and gas sector, it is important to critically assess the entire value chain taking cognizance of the upstream, midstream and downstream sectors. Gordon and Zimann have made attempts in this regard and posit that GHG emissions occur throughout the oil and gas value chain, during production, processing, refining, transport, and end use.[20]

This chapter reviewed literature on the subject under examination especially in regard to the strategies used by oil companies in addressing climate change and the extent of alignment of the oil and gas regulatory framework with climate change. The gaps in existing literature are also highlighted. The literature summary and conclusion are the reflection of the information gathered from a number of sources.

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[17] Sybille van den Hove, Marc Le Menestrel and Henri-Claude de Bettignies,' The oil industry and climate change: strategies and ethical dilemmas' (2002) 2(3-18).

[18] Disclosure Insight Action, <https://www.cdp.net/en/investor/sector-research/oil-and-gas-report> accessed 22 July 2019.

[19] U.S. Environmental Protection Agency, '*Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015, Executive Summary (*EPA, April 2017). < https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2015> accessed 24 June 2019.

[20]

2.1 Oil companies and climate change

A recent calculation finds that 63% of historical CO_2 and methane emissions from 1751 to 2010 are linked to just 90 entities, of which 56 are oil and gas firms.[21] Given the emissions that originate along the oil and gas sector, large multinational oil companies present a very strategic and significant target group for mitigating climate change.

In yester-years, the words ‘’oil and gas sector and climate change’’ would not be in the same sentence as they appeared to be rivals. Today we see a paradigm shift-from denial and scepticism of climate science to acceptance and even more interestingly to commitment to climate action. In the past, some of the oil and gas majors have funded, shaped, and advanced climate denial. Through this behaviour, these companies have besmirched the entire industry and substantially contributed to paralyzing global climate policy for decades.[22]

The discourses on sustainable development, environmental sustainability particularly the climate change agenda have all played a pivotal role in this regard. Increasingly the global energy landscape has been put in the spotlight as a potential sector through which mitigation interventions can deliver very fast and tangible climate solutions. The use of traditional energy especially fossil fuels is increasingly under scrutiny. Given this trend, the oil and gas companies, though late adopters some having delayed in denials that climate change is not happening, are also considering low-carbon emission energy transition. The process is gradual but there is hope that more companies will log onto these initiatives as it is crucial if the Paris Agreement goals are to be realized.

An analysis of the climate change strategies chosen by three major multinational oil corporations: ExxonMobil, Total FinaElf and BP Amoco classifies them as: the ‘fight against emission constraints,’ ‘wait and see,’ and ‘proactive’ strategies, respectively.[23] Perhaps what is interesting to highlight is the issue of a tension between profits and CO2 emissions. As one can imagine, this presents a very big ethical dilemma for a profit oriented sector like oil and gas especially when the contentious issue of climate change is hitherto abstract.

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[21] Richard Heede ,’Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854–2010’ (2013) Climate Change <http://www.climateaccountability.org/pdf/Heede%20TracingAnthropogenic%20ClimCh%20Nov13.pdf> accessed 25 July 2019.

[22] Marco Grasso,’ Oily politics: A critical assessment of the oil and gas industry’s contribution to climate change’ *Energy Research & Social Science (2019)106-11.*

[23] Sybille van den Hove, Marc Le Menestrel and Henri-Claude de Bettignies’ The oil industry and climate change: strategies and ethical dilemmas’ (2002) 2(3-18).

Apart from the proactive BP Amaco with their resolve in their Chief Executive's words:

> We must now focus on what can and what should be done, not because we can be certain climate change is happening, but because the possibility cannot be ignored. If we are all to take responsibility for the future of our planet, then it falls to us to begin to take precautionary action now.[24]

One can expect oscillations and back and forth in the resolve to act on climate change by oil and gas companies. The fact that some big polluters are climate laggards, refuting all scientific evidence and refusing to ratify policy instruments, has also constrained progress in this regard. However not all hope is lost if even for the 'climate defiant' America the world's largest economy and second biggest polluter, climate change is becoming hard to ignore as extreme weather has grown more frequent. This is causing some major shifts including in politics where the left of the Democratic Party wants to put a "Green New Deal" at the heart of the election in 2020; the private sector is showing signs of adapting; around 20 coal mines were shut last year; and there is advancement in technology including electric cars.[25]This commendable move however does not tell the entire story. Amidst these interventions, demand for oil is rising and the energy industry, in America and globally, is planning multi-trillion-dollar investments, pumping 25% more oil and gas in 2025 than in 2017.[26]

Technological advances in extraction, processing, and refining are only exacerbating the issue by ensuring that as conventional oil and gas resources are dwindling, unconventional petroleum supplies for example, shale gas, fracked tight oil, oil sands, condensates, and methane hydrates are emerging making these alternatives increasingly viable.

Beyond this, however, a focus on companies that are considering being part of the low-carbon energy mix for example Total which already has a major solar business; Statoil has a major offshore-wind arm presents the effect of lowering transition risk at the company level, by lowering the proportion of value that comes from fossil-fuel sources. If these companies

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[24] The Big oil and the environment: The truth about big oil and climate change' (The Economist, 9 February 2019) < https://www.economist.com/leaders/2019/02/09/the-truth-about-big-oil-and-climate-change> accessed 20 June 2019.

[25]The Big oil and the environment: The truth about big oil and climate change' (The Economist, 9 February 2019) < https://www.economist.com/leaders/2019/02/09/the-truth-about-big-oil-and-climate-change> accessed 20 June 2019.

[26] The Big oil and the environment: The truth about big oil and climate change' (The Economist, 9 February 2019) < https://www.economist.com/leaders/2019/02/09/the-truth-about-big-oil-and-climate-change> accessed 20 June 2019.

however still seek growth from high-cost oil and gas assets, they cannot be considered to be Paris compliant. On the other hand, a company that has left the fossil-fuel industry entirely must be said to be aligned with the aims of Paris. For example, DONG, now renamed Orsted, has entirely sold its oil and gas portfolio and although the company retains some coal, it will be phased out within 5 years. It therefore follows that having a renewables segment is not the answer in itself but the remaining potential fossil fuel profile too must be scrutinized.[27]

More analyses confirm this, positing that to date few petroleum companies have made durable climate commitments and none have backed them up with credible 2°C let alone 1.5°C plans. Those companies that are beginning to engage are focused more on reducing short-term, climate-related financial risks for their shareholders or are taking such a long view that it is hard to ascertain their precise plans. New industry associations, such as the Oil and Gas Climate Initiative (OGCI), are exploring industry-wide voluntary climate actions—but these are not a replacement for specific, well-funded, company-level commitments and action.[28]

Founded in 2014, and in many ways just starting up, OGCI is a club that brings together 10 of the largest firms, who account for close to 20 per cent of global oil and gas production, as well as nearly 12 per cent of historical greenhouse gas emissions. The varied membership club, spanning both national and international oil companies in developed and developing contexts, has voiced its support for current climate policy and science and have begun to re-imagine themselves within a low-carbon energy future.[29]

There is, however, an urgent need to stop talking about scenarios and start actually doing something as it is not useful for companies to assemble coalitions and set collective targets for which they cannot be held accountable. And it is not enough to cast about aspirations of long-term transformations that cannot be connected to concrete plans and investments.[30]

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[27] **Andrew Grant,' Explain to comply- how can oil and gas companies show alignment with climate change goals'** *(Carbon Tracker Initiative, 10 September 2018)* <https://www.carbontracker.org/explain-to-comply-how-can-oil-and-gas-companies-show-alignment-with-climate-change-goals> accessed 19 June 2019.

[28] Deborah Gordon, Stephen D. Ziman, 'Petroleum Companies need a credible plan' (Carnegie Endowment, 15 November 2018) < https://carnegieendowment.org/2018/11/15/petroleum-companies-need-credible-climate-plan-pub-77723> accessed 15th July 2019.

[29] Matthew Bach, 'The oil and gas sector: from climate laggard to climate leader?' (2019) 28(1) Environmental Politics <https://www.tandfonline.com/doi/full/10.1080/09644016.2019.1521911?af=R> accessed 5 June 2019.

[30] Deborah Gordon, Stephen D. Ziman, 'Petroleum Companies need a credible plan' (Carnegie Endowment, 15 November 2018) < https://carnegieendowment.org/2018/11/15/petroleum-companies-need-credible-climate-plan-pub-77723> accessed 15th July 2019.

Whether the oil and gas industry is taking the Paris Agreement seriously is something that will remain up for debate for quite some time. What is however clear is that traditional patterns of interaction between the sector and the climate regime have been broken. This is best expressed by firms joining or crafting climate governance initiatives. The increasing engagement of the oil and gas sector in searching out a low-carbon role for itself is also becoming apparent in its putting forward new visions of itself, mostly based on the use of technologies, economic instruments (for example carbon pricing), and the optimization of existing processes (for example flaring reduction).[31]

Indeed, this is in keeping with the analysis that shows that (1) vigorous development of natural gas business is the first step for oil and gas companies to transition to low-carbon emission stage; (2) increasing investment in renewable energy is a long-term action of oil and gas companies and the key to transforming oil and gas companies into integrated energy companies; (3) and oil and gas companies should have rich experience in developing geothermal energy.

According to a recent report by environment and financial watchdog CDP on the rating of different oil companies, Norway's Equinor which holds the top spot on the list has advanced in regard to low carbon strategy by announcing plans to invest 15-20% of their capital expenditure in renewable energies by 2030, with a focus on offshore wind.[32] US-based companies, by contrast, have not embraced renewables in the same way, because they have less domestic pressure to diversify. "Across the 24 companies, European majors account for 70% of current renewable capacity and nearly all capacity under development.[33]

The above analyses illustrate existing work and thinking around oil companies and climate change. What seems to be missing in the existing literature is how organisation (Oil Company) policies interact with regional and national regulations where these companies operate? Perhaps put more explicitly, do oil companies follow the same standards (in regard to climate

[31] Matthew.S. Bach, 'Is the Oil and Gas Industry Serious About Climate Action?' (2017) 59(2) Environment: Science and Policy for Sustainable Development <https://www.tandfonline.com/doi/full/10.1080/00139157.2017.1274579 accessed 5 June 2019.

[32] Frederic Simon, 'European Oil Majors better prepared for energy transition than US, Chinese Counterparts' (The Economist, 12 November 2018) < https://www.euractiv.com/section/energy/news/european-oil-majors-better-prepared-for-energy-transition-than-us-chinese-counterparts/> accessed 20 August 2019.

[33] Frederic Simon, 'European Oil Majors better prepared for energy transition than US, Chinese Counterparts' (The Economist, 12 November 2018) < https://www.euractiv.com/section/energy/news/european-oil-majors-better-prepared-for-energy-transition-than-us-chinese-counterparts/> accessed 20 August 2019.

change response and interventions) in all jurisdictions (whether with robust regulatory frameworks or not)? This research will focus on providing insights to this pertinent question.

2.2. Examining the extent of integration of climate change mitigation in the oil and gas regulatory framework

Global GHG trends are *prima facie* evidence that existing climate policy instruments are inadequate in breadth (countries, sectors) and ambition (stringency).[34] As seen from the previous chapter, oil companies for example deploy different strategies for climate action, have different motivations and some have been observed to change over time. These observations actually pose great climate policy implications and should be intently reflected upon if nations are to deliver on the climate targets and achieve Paris compliance.

Large oil companies influence domestic climate policy, affect the positions of states in international climate negotiations, and constitute critical target groups when policies are to be implemented[35]. It therefore follows that understanding the drivers of the observed climate strategies chosen by the oil industry gives mileage in teasing out viable climate policy that can be embraced by everyone including these oil corporations. Matthew Bach has presented four major drivers namely: the growing importance of renewables considering that some European countries are able to sustain themselves wholly from renewables; second is the climate-related public and private policy which is gathering pace and having been reinforced by the Paris Agreement; third, discursive shifts are taking place that serve to marginalize the role of oil and gas in a low-carbon future; and fourth is the low price environment in the past years reaching a collapse from over US$ 100 per barrel to barely US$ 30 between June 2014 and January 2016.[36]

What is becoming clear though is that the emerging post-Paris world may not be able to sustain 'avoidance' as a strategy. Fast forward to 2016, much has changed and slowly, firms are beginning to publicly recognize climate change as a major issue including ExxonMobil. Some firms have begun to re-imagine themselves within a post-Paris world, to secure a role in a future no longer reliant on them and breaking with traditional patterns of opposition to climate

[34] OECD, 'Aligning Policies for a Low-carbon Economy', (OECD Publishing, 2015).
[35] Pascal Peduzzi, 'The Disaster Risk, Global Change, and Sustainability Nexus' (2019) Sustainability < https://unepgrid.ch/storage/app/media/legacy/PP_Disaster_Risk_Global_Change_and_sustainability_2019.pdf) accessed 23 July 2019.
[36] Matthew.S. Bach, 'Is the Oil and Gas Industry Serious About Climate Action?' (2017) 59(2) Environment: Science and Policy for Sustainable Development <https://www.tandfonline.com/doi/full/10.1080/00139157.2017.1274579 accessed 5 June 2019.

governance. In terms of action, firms are considering enacting policies supportive of the Paris Agreement, of increasing their investment in non-fossil forms of energy, and of developing low-carbon "transition" strategies, all indicating a positioning for a new role in the governance of climate change.[37]

The bigger dilemma for climate governance however is the diminishing role of states since it has been argued that large corporations increasingly operate beyond political control and that international economic integration or globalization has produced the 'global corporation', which owes allegiance to no state[38]. This, therefore, begs the question that is the Nationally Determined Contributions redundant when it comes to the oil and gas sector? While many Parties are making significant strides towards achieving their nationally determined contributions (NDCs), the gap between expected global emissions levels and agreed emission reduction targets remains far too wide. Fossil fuel production, a major contributor of emissions still features in countries' plans and actions to expand the extraction of coal, oil, and gas in magnitudes that far exceed the limits of a 1.5-2°C carbon budget.[39]Today, the world's major economies continue to subsidize investment in fossil fuel exploration and extraction on the order of USD 18-70 billion per year.[40]

Until now, the focus has been on more of demand side interventions for example use of efficient cook stoves, interventions to address transport emissions, reduction of methane emissions to address climate change. Less focus has been given to the supply side and this has resulted into misalignment between existing policy frameworks and climate objectives.

Addressing this misalignment can enhance the responsiveness of economic and social systems to climate change policy efforts and facilitate the low-carbon transition. This, in turn, could help governments be more ambitious, both in domestic policies and in their international

[37] Matthew.S. Bach, 'Is the Oil and Gas Industry Serious About Climate Action?' (2017) 59(2) Environment: Science and Policy for Sustainable Development <https://www.tandfonline.com/doi/full/10.1080/00139157.2017.1274579 accessed 5 June 2019.

[38] Pascal Peduzzi, 'The Disaster Risk, Global Change, and Sustainability Nexus' (2019) Sustainability < https://www.mdpi.com/2071-1050/11/4/957 >accessed 23 July 2019.

[39] Cleo Verkuijl, Georgia Piggot, Michael Lazarus, Harro van Asselt, and Peter Erickson, 'Aligning fossil fuel production with the Paris Agreement: Insights for the UNFCCC Talanoa Dialogue' (2018) Stockholm Environment Institute <'https://www.sei.org/publications/aligning-fossil-fuel-production-paris-agreement/> accessed 12 June 2019.

[40] Cleo Verkuijl, Georgia Piggot, Michael Lazarus, Harro van Asselt, and Peter Erickson, 'Aligning fossil fuel production with the Paris Agreement: Insights for the UNFCCC Talanoa Dialogue' (2018) Stockholm Environment Institute <'https://www.sei.org/publications/aligning-fossil-fuel-production-paris-agreement/> accessed 12 June 2019.

contributions[41] The OECD analysis highlights policy misalignment across several dimensions namely:

(i) Policy areas and policy objectives. Is there consistency between goals, objectives or impacts of existing policy areas and climate policies? For instance, do financial market regulations have unintended negative consequences for low-carbon investments? Are tax systems encouraging CO2-intensive development?

(ii) Development, economic and industrial policy goals. Are policies that support development goals undermining long-term climate goals?

Levels of government. Are the respective mandates of different levels of government and different ministries conducive to or hindering climate change objectives?

(iii) Stakeholders. Do public and private actors have the same incentives for moving to low carbon – e.g. are potential climate risks transparently reflected in corporate disclosures and investor portfolios?

(iv) Borders. Can one country's climate policy be undermined by another's domestic policy choices? Do international trade rules or unilateral trade remedies hinder the adoption of stronger climate policies? If so, how?

The analysis further proposes a three-pillar approach that can be most effective in reducing GHG emissions: 1) a clear and robust price signal on GHG emissions or other market-based instruments; 2) smart regulations to remove market barriers to low-GHG choices; 3) forward-looking support to low-carbon technologies.

In cognizance of the above analysis and dimensions, one notes that since nations are not homogeneous, they differ in levels of economic development and capital endowments. This has a direct bearing on the acceptability, adoption and implementation of such core climate policies. Uganda, whose sole preoccupation lately is how to attain a middle income status by 2020 may not be keen on interventions in the fossil fuel supply or production side which in the strictest sense may be pointing to 'keeping carbon in the ground'. Indeed the Petroleum Authority of Uganda affirms that Uganda is ready to transition to renewable energy and to benefit from the existing and potential oil and gas resources at the same time.[42] On the other

[41] OECD, 'Aligning Policies for a Low-carbon Economy', (OECD Publishing, 2015).
[42] Ali Ssekatawa, 'Global shift to renewable energy will not harm Uganda's oil sector' *New Vision* (Kampala, 13 August 2019).

hand, there is Orsted in Denmark that has entirely sold its oil and gas portfolio.[43] It therefore follows that the pace will vary with country.

According to the World Data Atlas, Uganda's CO2 emissions per capita mainly from the burning of fossil fuels and the manufacture of cement tended to increase through 1996-2015 ending at 0.13 metric tonnes in 2015.[44] Like the global emissions however, Uganda's CO2 emissions from fossil fuels and industry were projected to rise by the end of 2017 following three years of emissions staying relatively flat.[45]

Positioning herself as a front runner and responsible player in the climate change space, Uganda has made strides to achieve a low carbon development pathway. Notable among these is: the launch of its National Greenhouse Gas (GHG) Inventory System, a very critical contribution to the global effort to emission reduction under the 2015 Paris Agreement; Uganda presented six action points to the UNFCCC Nationally Appropriate Mitigation Action (NAMA) Registry around the themes of solid waste in Kampala city, use of efficient cook stoves, Bus rapid transport to address transport emissions, reduction of methane emissions from livestock production, integrated waste water treatment and Periodic vehicle inspection for emissions and road worthiness.

Clearly, the six action points to the UNFCCC NAMA Registry are silent on possible salient interventions in the oil and gas industry. Similarly, whereas Uganda's Nationally Determined Contributions (NDCs)[46] present mostly demand side driven mitigation actions in among others the energy sector, the NDCs are silent on oil and gas. It can be argued that the oil and gas industry is yet to begin when oil starts to flow but strategic planning would demand explicit provisions and interventions in the oil and gas sector to mitigate climate change.

In an appraisal of the policy and legal framework for environmental protection in oil and gas exploration, Monday recommends that more focus is placed on ensuring that the policy and legal framework includes provisions for oil and gas industry related- environmental issues at

[43] **Andrew Grant,' Explain to comply- how can oil and gas companies show alignment with climate change goals'** *(Carbon Tracker Initiative, 10 September 2018)* <https://www.carbontracker.org/explain-to-comply-how-can-oil-and-gas-companies-show-alignment-with-climate-change-goals> accessed 19 June 2019.
[44]Deusdedit Ruhangariyo, 'Uganda's carbondioxide emissions set to rise' *New Vision* (Kampala, 14 November 2017).
[45] Deusdedit Ruhangariyo, 'Uganda's carbondioxide emissions set to rise' *New Vision* (Kampala, 14 November 2017).
[46] Ministry of Water and Environment (MWE), 'Uganda's Intended Nationally Determined Contribution (INDCs)' (MWE, 2015).

hand, and not the environment generally. [47] It is important to remember that most of the environment policy and legal frameworks were enacted at a time when there was no oil and gas exploration in Uganda. Similarly, awareness about climate change issues was still limited and this explains why climate change policy and legal frameworks are equally in nascent stages. The Uganda Climate change policy, 2015 requires that all sectors integrate climate change into their planning. To date, only the agriculture and lands sector have developed sector specific mainstreaming guidelines. The situation is exacerbated by lack of a climate change law. The implication is that there are no legal requirements or obligations and therefore any form of response could be based on other factors like moral grounding, donor interest or support of the sector among others.

A number of oil and gas laws and institutional frameworks were premised on the National Oil and Gas Policy of 2008 which provides for environmental matters in a more general sense. This has, therefore, presented a misalignment of the oil and gas policy with the current realities and challenges like climate change. The double nascent stages of the oil and gas sector and climate change discourse present opportunities to address the cited regulatory gaps. For example, eleven years later, of the oil and gas policy presents a 'policy window' for revision to capture some of the present day challenges including climate change. This is indeed the thrust of this research- not only to analyse the provisions for climate change as a critical component of the environment but also to propose pathways for realigning the regulatory frameworks.

2.3 Conclusion

Uganda's nascent oil and gas sector will surely contribute to increasing GHG emissions. The oil and gas companies are cognizant of this and are devising measures to stay in business while minimizing emissions and resultant contribution to climate change. The oil and gas regulatory framework however provides for environmental matters in a broader way because at the time of their development, climate change issues were not widely appreciated as it is today. The National Oil and Gas Policy of 2008 which is the overarching oil and gas policy and on which other regulatory frameworks are premised, provides for environmental matters in a more general sense. Similarly, most of the environmental legal frameworks were enacted at a time when there was no commercial oil and gas exploration in Uganda. This has therefore presented

[47] Monday Jane, 'Oil and gas exploration and environment protection in Uganda: An appraisal of the policy and legal framework' (2014) Unpublished master's thesis, Makerere University <http://makir.mak.ac.ug/handle/10570/5862> accessed 1April 2019.

a misalignment of the oil and gas regulatory framework with the current realities and environmental challenges of climate change.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology applied for the study. It includes the research design sampling methods, data collection methods, data collection instruments, validity and reliability of instruments, data analysis and ethical issues.

3.1 Research Study Design

The main methodology of data collection for this study was qualitative. The objectives of the study connoted investigations of motivations for choosing given strategies by oil companies, alignment of policies to climate change action among other issues. This therefore pointed to the need to apply qualitative methods.[48] Interviews, observations and document reviews were used.

Desk reviews were complemented by interviews to characterize the strategies that oil companies have devised to address climate change and to examine the alignment of the regulatory framework. The actual manner in which the courts have engaged with these concepts was also be considered. Analysis frameworks including policy network, advocacy coalition and interpretative policy analysis were engaged to fully understand regulation in the oil and gas sector.

3.2 Study Population

The study involved face to face and telephone interviews with the target population from the 6 entities interviewed. Purposeful sampling guided the selection of key informants who were well versed with knowledge, expertise and experience in view of the study problem. The sampling frame considered key stakeholders from Uganda National Oil Company (UNOC), Total E&P, CNOOC, Civil society organizations including ACODE, Green Watch International and AFIEGO. The reasons for the choice of these bodies was informed by their active role in the business and the advocacy role in environmental and climate change matters respectively.

[48] Catherine Dawson, *Practical Research Methods: A user friendly guide to mastering research techniques and projects* (British Library, 2002) and C.R. Kothari, *Research Methodology: Methods and Techniques*, (New Age International Limited Publishers, 2004)

3.3 Sampling Techniques

Purposeful sampling was used as it is widely used in qualitative research for the identification and selection of information-rich cases related to the phenomenon of interest especially in implementation research. Purposive sampling is exemplified through key informant interviews wherein one or a few individuals are solicited to act as guides to a culture.[49] Three oil companies were sampled. These include Uganda National Oil Company (UNOC) to represent a state company, Total Uganda to represent an older company in the business and China National Offshore Oil Corporation (CNOOC) to showcase an emerging company.

In their analysis of ''which oil and gas companies are ready for the low-carbon transition?'' Disclosure Insight Action finds that 'Equinor convincingly retains first place with Total, Shell and Eni all closely ranked together in second, third and fourth respectively; lowest ranked companies are CNOOC, Rosneft and Marathon Oil.[50] This further characterizes Total as an early adopter and front runner while CNOOC could still be lagging behind. It is therefore envisaged that each of these cases will bring out unique perspectives that will enrich the study.

3.4 Data Collection Methods

Data collection methods included detailed document reviews, institutional mapping, key informant interviews and assessments to tease out priority interventions.

3.4.1 Document Review

A number of documents were analyzed including: official government documents including policies, laws, Environmental and Social Impact Assessment Reports, text books, websites for institutions, NGO publications, magazines and relevant media reports. All climate change and oil and gas law and policy documents including case law were analyzed. International, regional and national legal frameworks were examined. Theoretical interpretations were drawn from the information and data collected. Desk research provided insights on the various legal framework governing climate change mitigation in the oil and gas sector.

Whereas this method is cost friendly due to the fact that the information has been collected and is accessible in a specific location, it has a limitation that it may represent a more general picture

[49] Benard 2002, Garcia 2006, Gustard et al.2004, Jarvis et al. 2004, Lyon and Hardesty 2005) in Ma Dolores C. Tongco, '*Purposive Sampling as a Tool for Informant Selection*' Ethnobotany Research and Applications 5:147-158 (2007)

[50] CPD, 'Beyond the Cycle: A summary of CDP's sector report, ranking 24 major global oil and gas companies' (November 2018) < https://www.cdp.net/en/investor/sector-research/oil-and-gas-report> accessed 26 July 2019.

rather than that of the objectives of the study. The other limitation is the impossibility to physically interact with the information generators on the spot, which might result in a number of misinterpretations hence errors.

3.4.2. Key informant Interviews

Document reviews were complemented by key informant interviews to provide a more detailed understanding of the strategies that oil companies adopt for climate action. The interviews also helped in triangulating the already obtained data. Key informant interviews provide an expanse of data and information since the informants are presumably well versed with the study problem. This is possible because interviews help in exploring the views, experiences, beliefs and motivations of individual participants.[51] Key informants are observant, reflective members within the space of interest who know much about the phenomena under study and are both able and willing to share their knowledge.[52]

3.5 Data Collection Instruments

Interview guides were used for the key informant interviews to be able to generate first-hand information. Access to these entities from which the Key informants come was facilitated by an introduction letter from the university that introduced the researcher and her intentions. Interview appointments were set with the respondents, an interview guide shared in some instances before the interaction. Data was gathered, compiled and analyzed.

3.5.1 Interview Guides

The interview guide that contained open-ended questions was administered to 6 respondents. Although they were planned to be face to face interactions, telephone interviews were engaged in some instances. Whereas this instrument enlisted in depth information in line with the study objectives owing to its ability to group related issues, allowing probing and interpretation, it is costly and time consuming.

[51] Gill, P., Stewart, K and Chadwick, B., *'Methods of data collection in qualitative research: Interviews and focus groups*' British Dental Journal 204,291-295(2008).
[52] Benard 2002, Campbell 1955, Siedler 1974, Tremblay 1957 in Ma Dolores C. Tongco, *'Purposive Sampling as a Tool for Informant Selection*' Ethnobotany Research and Applications 5:147-158 (2007).

3.5.2 Documentary Review Checklist

A list of policies, laws, agreements, annual reports, strategic plans, and journal articles with relevant information was made. A good number of these documents were accessible on organizational websites which made the document review successful.

3.6 Data Processing and Analysis

Both primary (interviews) and secondary sources (document reviews) were utilized. The results of the two were merged and analyzed.

3.6.1 Qualitative Data Analysis

Content analysis was used and it involved transcribing, sorting and coding and finally organizing in themes in line with the study objectives and already existing literature so as to generate new insights and knowledge. As soon as thematic patterns and interpretations had been derived, collection was halted.

3.7 Ethical Consideration

The researcher obtained permission from University to carry out research and also from respondent institutions. Issues of copy right were well considered and taken care of by citing and quoting all sources of information referred to during the study.

3.8 Anticipated Methodological Constraints/ limitations and Mitigation Measures

Accessibility of documents was one the anticipated constraints given that the study was going to heavily rely on document reviews. This was mitigated by signing into groups like academia and others that have free access to a number of resources. Google scholar was also helpful. It was also refreshing that most of government documents were accessible on organizational website. Availability and willingness of respondents was also envisaged as a potential limitation. Using the introductory letter from the University and prior interactions to schedule appointments eased this one. The outbreak of COVID-19 however presented an unforeseen challenge which challenged face to face interviews and affected some appointments. This was addressed by conducting telephone calls for those that had been repatriated from the country.

Through resilience and deliberateness, the researcher managed to work around these constraints to collect enough information to inform this very important addition to the body of knowledge in climate change mitigation in the oil and gas sector.

3.10 Conclusion

The multiplicity of methods and instruments used allowed triangulation and reduction of errors, so as to be able to present a holistic picture of the extent of alignment of the oil and gas regulatory framework with climate change mitigation in Uganda. The key informant interviews with very resourceful persons who have been at the helm of the oil and policy discourse also provided authentic authorities which corroborated well with document reviews.

CHAPTER FOUR

INTERNATIONAL LEGAL FRAMEWORK RELATED TO CLIMATE CHANGE AND OIL AND GAS

4.0 Introduction

The aim of the study was to examine the extent to which climate change is mainstreamed in Uganda's oil and gas sector regulatory framework. The focus was to identify policies, plans and programmes aimed at mitigating climate change in Uganda and to assess the extent to which they have been mainstreamed both in formulation and practice. National policy frameworks are however guided by international legal frameworks. In this section, the study identifies the international legal framework for climate change.

4.1 International Legal Framework for Climate Change Action

The basis for action on climate change is enshrined in international frameworks to which Uganda is a signatory, as well as national policy and legal provisions. The international legal framework commonly comprises of soft law and this is also true within the climate change space. Below, the study discusses some of the principles, declarations, agreements and conventions that have been put in place to address climate change.

I) The Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972: The United Nations Conference on the Human Environment (Stockholm Conference) which was the UN's first major conference on international environmental issues was indeed very pivotal in setting the stage for international environmental politics. The Declaration which contains 26 principles calls upon governments and people to combine efforts for the preservation and improvement of the human environment for the benefit of the people and their posterity. This declaration is very relevant to the study as it comprises the bed rock on environmental governance.

II) [53]Our Common Future (Brundtland Commission Report, 1987): The Brundtland Report also known as 'Our Common Future was released in 1987 by the World Commission on Environment and Development. It is this commission that introduces the concept of sustainable development. The concept of sustainable development has since been

[53] 1972 Stockholm Declaration

amplified, evidenced by the 17 Sustainable Development Goals (SDGs). SDG 13 has been designated to address climate change.

III) The Rio Declaration, 1992: this is a build on from the Stockholm Declaration. It establishes new global partnerships with new levels of cooperation among states and key sectors of societies and people. It contains 27 principles including Environmental Impact Assessments.[54] Addressing global issues such as climate change require global partnerships which this declaration was able to highlight as far back as 1992.

IV) The Ministerial Declaration of the Second World Climate Conference adopted on 7 November 1990: This Declaration was as a result of discussions of the results of the first decade of work under the World Climate Programme, the first assessment report of the Intergovernmental Panel on Climate Change among others. Among the key issues in the declaration was the recognition of the GHG emissions resulting from human activities and the need to expedite negotiations for a framework convention on climate change.[55] As a result and of relevance to this study is the United Nations Framework Convention on Climate Change is the overarching legal framework for addressing climate change

The above declarations and accompanying resolutions are considered monumental in environmental and climate change governance. They indeed set the stage for more deliberate efforts in addressing climate change including in some cases, binding instruments:

i) The UN Desertification Convention, 1994: the objective is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and desertification particularly in Africa.[56] This convention is relevant to this study as drought is one of the extreme manifestations of the effects of climate change in Uganda.

ii) The Vienna Convention for the Protection of the Ozone Layer, 1985:is a framework convention that lays out principles agreed upon by many parties. Its aim was to promote cooperation among nations by exchanging information on

[54] UN, 'A Report on the United Nations Conference on Environment and Development' A/CONF.151/26(Vol.1), 1992.
[55] UN, 'Protection of Global Climate for Present and Future Generations of Mankind' A/45/696/Add.1, 8 November 1990.
[56] UN, Elaboration of an International Convention to Combat Desertification in countries experiencing drought and desertification particularly in Africa, 1994.

the effects of human activities in the ozone layer[57] This convention goes hand in hand with the Montreal Protocol, an international treaty designed to protect the ozone layer by phasing out numerous substances that are responsible for ozone depletion. Agreed in 1987 and amended on 29 June 1990, Uganda ratified it in 1994. Both developed and developing countries have equal but differentiated responsibilities but these are binding, time bound and measurable commitments.[58] For the purposes of this study, ozone depletion is considered an environmental challenge that is related to climate change.

Following the Ministerial Declaration of the Second World Climate Conference adopted on 7 November 1990 which among others called for expediting the process of negotiating a framework convention on climate change, the United Nations Framework Convention on Climate Change (UNFCCC) was developed. Uganda signed and ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1994, the Kyoto Protocol (KP) in 2002, and the Paris Agreement on Climate Change in 2016. The Kyoto Protocol which was adopted at the third Conference of Parties to the UNFCCC provided the first binding caps and greenhouse emission reduction commitments. The 21st Conference of Parties saw the adoption of the Paris Agreement whose focus is for all countries to limit the rise in global temperature to less than 2 degrees and to further ensure that the rise does not exceed 1.5 degree Celsius above pre- industrial levels.

4.1.1 United Nations Framework Convention on Climate Change (UNFCCC)

This is the principal global agreement focused on preventing dangerous human interference with the climate system. Some of the key issues addressed by the convention include: regular reporting by developed (Annex 1 countries) on their climate change policies and measures. Developing countries (non-annex 1 parties) are required to report in more general terms on their actions both to address climate change and to adapt to its impacts. UNFCCC sister conventions include the UN Convention on Biological Biodiversity and the Convention to combat desertification.[59]

[57] UN Environment Programme,'Vienna Convention for the Protection of the Ozone Layer' Accessed from ozone.unep.org on 21 April 2020.
[58] UN Environment Programme, 'The Montreal Protocol'.
[59] UNFCCC, 'What is the United Nations Framework Convention on Climate Change?' https://unfccc.int/processes-and meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-chnage.

4.1.2 Kyoto Protocol (KP)

The Kyoto Protocol builds upon and enhances the commitments already in place under the convention by committing industrialized countries (Annex 1 Parties) to limit and reduce GHGs emissions in accordance to agreed individual targets. This reinforces the convention which only invites those countries to adopt policies and measures on mitigation and to report periodically. As such, the KP occasions a heavier burden on Annex 1 countries basing on the principle of "common but differentiated responsibility and respective capabilities" as it recognizes that they are largely responsible for the current high levels of GHG emissions in the atmosphere.[60] The Protocol was amended in 2012 running from 2013 to 2020 and some of the amendments include: new commitments for Annex 1 parties to the Kyoto Protocol and a revised list of GHG to be reported on by the Parties in the second commitment period. The Protocol offers market based mechanisms for parties to meet their emission targets. These include international emissions Trading, Clean Development Mechanism and Joint Implementation. The KP is keen on having countries' actual emissions monitored and precise records of the trades carried out kept.[61]

4.1.3 Paris Agreement on Climate Change

The Paris Agreement which also builds upon the Convention charts a new course in the global climate effort, as it for the first time brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. The Paris Agreement central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise well below 2 degree Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degree Celsius.

Through nationally determined contributions (NDCs), the Paris Agreement requires all Parties to strive hard and to strengthen climate action efforts in the coming years including regular reporting on their emissions and implementation efforts.[62] The Paris agreement, unlike the Kyoto Protocol, which established legally binding emission reduction targets and penalties for noncompliance for developed nations only, the Paris requires that all countries to reduce greenhouse gas emissions using voluntarily set targets. Monitoring, reporting and reassessing

[60] UNFCCC, 'Kyoto Protocol Reference Manual on Accounting of Emissions and Assigned Amount' 2008.
[61] UNFCCC, 'Kyoto Protocol' Accessed from https://unfccc.int/kyoto_protocol.
[62] UNFCCC, ' The Paris Agreement' Accessed from https://unfccc.int/processes-and-meetings/the-paris-agreement/the-paris-agreement.

of individual and collective country targets and communicating new 5 yearly targets is a key tenet for the agreement.[63] An example is this year, 2020 which marks the first five-year milestone of the 2015 Paris agreement and Parties are expected to set long term 2050 goals to decarbonise their economies and shorter term targets lasting until 2030. The Paris Agreement has however been critiqued for its legal ambiguities as it uses words such as ‘’requests’’, ‘’invites’’ or ‘’urges’’ thereby falling short of legal obligations.

Under the decision implementing the Paris Agreement for example, the following are cited to exemplify the ambiguous language adopted:[64]

> 1/CP21 Paragraph 35 *invites* Parties to communicate, by 2020, to the secretariat mid-century, long term low greenhouse gas emission development strategies in accordance with Article 4, Paragraph 19, of the Agreement, and *requests* the secretariat to publish on the UNFCCC website Parties' low greenhouse gas emission development strategies as communicated.
>
> 1/CP21 Paragraph 23 *requests* those Parties whose intended nationally determined contributions pursuant to decision I/CP.20 contains a time frame up to 2025 to communicate by 2020 a new nationally determined contribution and to do so every five years thereafter pursuant to Article 4, paragraph 9 of the Agreement

Uganda is also signatory to the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). Apart from SDG 13 that focuses on taking urgent action to combat climate change, climate action and resilience have been integrated throughout the rest of the SDGs.

Other Conventions, Agreements and Arrangements on Climate Change at international level include:

I)The Aarhus Convention provides for the rights to: i) access to environmental information); ii) the right to participate in environmental decision-making and iii) the right to challenge public decisions that have been made without respecting the two rights mentioned. [65] In regard

[63] NRDC, 'Paris Climate Agreement: Everything you need to know' Accessed from https://www.nrdc.org/stories/paris-climate-agreement-everything-you-need-know#sec-agreements.

[64]Alister Doyle, 'Will governments pass first test Paris Climate Agreement 2020?' (Climate Home News, 12 March 2020) https://www.climatechangenews.com/2020/03/12/will-governments-pass-first-test-paris-climate-agreement-2020/.

[65] Aslı Gül Öncel and Theodore Tzanakis, 'Legal and Statistical Framework of Climate Change from the EU and International Point of View' *Athens Journal of Sciences*, Volume 5(1) 307-328 (2018).

to this study, this convention is critical to ensuring a meaningful stakeholder engagement and participation. The role of civil society organizations in advocating for mainstreaming environment issues within the petroleum legal framework illustrates this very clearly as expounded in Chapter six.

II)UNFCCC Meetings: including i) Conferences of the Parties (COP) which is UNFCCC's annual conference that brings together all Parties to the Convention to participate. Other stakeholders including private sector, non-governmental organizations, civil society organizations and interest groups and associations play an observer role. ii) Meetings of Parties to the Kyoto Protocol (CMP) and iii) Bodies Subsidiary where decisions held by the COP and CMP are prepared.[66] The above legal framework on climate change discussed above is a result of the decisions, resolutions, declarations and agreements arising out of these meetings.

III) Other International fora include the: i. Intergovernmental Panel on Climate Change (IPCC), ii. G7 and G20; iii. Major Economies Forum on Energy and Climate (MEF); iv. Organization for Economic Cooperation and Development (OECD); and v. International Energy Agency (IEA).[67] The IPCC provides the scientific evidence need to support climate change policy planning while the other organizations set out standards and a code for its member states or parties to follow in regards to addressing climate change within their business frameworks.

At regional level, Uganda is a member of the East African Community (EAC) which put in place a place the EAC climate change policy in 2010.

Against the above, the study posits that these international legal instruments, many of which comprise soft law set the stage for climate change discourse. The line between environment and climate change was however blurred in the pioneer legal instruments like the Stockholm Declaration, Rio Declarations and the Brundtland Report. There is progression however to more climate specific legal instruments like the UNFCCC, the Kyoto Protocol and Paris Agreement. Besides the Kyoto Protocol, the non-binding nature of these climate change specific legal frameworks has been a key impediment to holding parties accountable and to enable climate litigation. Notwithstanding this, these international legal frameworks have

[66] Aslı Gül Öncel and Theodore Tzanakis, 'Legal and Statistical Framework of Climate Change from the EU and International Point of View' *Athens Journal of Sciences*, Volume 5(1) 307-328 (2018).
[67] Aslı Gül Öncel and Theodore Tzanakis, 'Legal and Statistical Framework of Climate Change from the EU and International Point of View' *Athens Journal of Sciences*, Volume 5(1) 307-328 (2018).

enhanced awareness of the issue of climate change, spurred climate action and have guided nations including Uganda to enact their own legal framework to address climate change.

Using some cases, the study expounds on the issue of climate litigation in the absence of enabling law. The *Ogoniland case* which focuses on climate change concerns and the consequent important ecological destruction in Nigeria involved SHELL Company that had been misusing oil reserves in the Niger Delta since the 1950s. The case was determined basing on human rights as provided for in the Banjul Charter (Right to Health (Article 16), the Right to a good Environment (Article 24), the Right of people groups to dispose the resources, belonging to them (Article 21)), the Commission held that the Government had not taken appropriate measures for environment protection and that it had to find ways to keep private parties (i.e., the oil Corporations) from harming the land.[68] Similarly, in *Greenpeace Nordic v Government of Norway*, (a case where Greenpeace Norway, Nature and Youth and the Grandparents Climate Campaign instituted a legal action against the Norwegian Government for conceding new oil licenses for drilling the Arctic), the Oslo District Court held that the Norwegian Government has not violated the Constitution. Reacting to the judgment, Greenpeace Norway recognized that government had done well in upholding the Environmental Article in the Norwegian Constitution, but had failed in recognizing Norway's responsibility for harming the planet's climate. The above decision was appealed by the Greenpeace Nordic, Nature and Youth in February 2018.[69]

The cases can be more, yet there are clear trends regarding their determination. The international jurisprudence that has emerged from cases touching on the issues of climate change has disappointingly not been progressive, as it is apparent that the cases have largely been determined within the framework of international Human Rights and Environmental law in addition to national constitutional provisions. Indeed, there has been a failure to give climate change case law the full recognition it deserves as an emerging area of Public Interest Litigation that ideally should require an independent body of case law that bears in mind the specific unique scientific evidence. At global level, it must be noted that the SDGs give climate action clear prominence as distinct from general environmental issues and human rights. Consequently, the denial by the courts to consider well known scientific evidence on climate

[68] William T.O and Jay Park. J, 'World Petroleum Legislation: Frameworks That Foster Oil and Gas Development' *Alberta Law Review 39(1) 2002.*
[69] William T.O and Jay Park. J, 'World Petroleum Legislation: Frameworks That Foster Oil and Gas Development' *Alberta Law Review 39(1) 2002.*

change matters and the resultant effects has not only left a lacuna in the law but also frustrated progressive efforts to mitigate climate change and related effects.

4.2 Findings on climate change provisions in International Oil and Gas Legal Frameworks

Information on general international oil and gas legal frameworks, rather than those focused on offshore oil resources, seems scanty. This is affirmed by the observation that indeed the current enhanced global awareness of the need for diligent environmental protection and preservation has outpaced international practice in the petroleum sector where petroleum laws and most host countries often failed to provide comprehensive laws on environmental protection and conservation. The topic was relegated to national laws and Model Contracts where the contractor was typically required to "conduct all petroleum operations in a diligent, conscientious and workmanlike manner in accordance with generally accepted standards of international petroleum industry designed to achieve efficient and safe exploration and production of petroleum" and ‘’….requiring that all necessary measures be taken for conservation, safety of life and property, crops, fishing and fisheries, navigation, protection of the environment, prevention of pollution, and safety and health of personnel.’’[70]

Whereas this can be applauded as a reasonable starting point, it is important to note that these provisions are in themselves inadequate. The practice today, that includes more comprehensive legal obligations for environmental protection and safety in the Petroleum Law and the requirement for Environmental Impact Assessments to be carried out, has attempted to address these inadequacies albeit with gaps. The issue of climate change is still glaringly missing.

4.3 Conclusion

Whilst there are international conventions and treaties (such as the UNFCCC and ensuing protocols and agreements) that ideally provide the international framework and guidelines for climate change, and that indeed many countries have ratified, such treaties have not been fully domesticated by all countries that are signatories to the said treaties. Thus, not many member states have developed specific climate change principal legislation in form of Acts of Parliament, regulations, bye laws to mention but three to provide for climate change matters and enforcement thereof. Bearing in mind the principle of sovereignty of states under

[70] William T.O and Jay Park. J, ‘World Petroleum Legislation: Frameworks That Foster Oil and Gas Development’ *Alberta Law Review 39(1) 2002.*

international law, merely ratifying the treaty does not give full force for local courts in respective states to enforce climate change provisions in international instruments. Possibly, this explains why in the cited climate change related cases, the courts were constrained to fully consider and resolve them but rather relied on general provisions of the Environmental and Human rights law. This trend, from courts of law undermines the latest climate change discourse and research, and one would be justified to conclude that the courts of law are non-progressive in this regard. In sum, the international legal framework on climate change has been set and is guiding climate response in nations like Uganda, but remains insufficient in itself without the enabling legal infrastructure of member states or parties that are signatory to the same. The language adopted in some of the international instruments equally requires urgent reform to make it clear, unambiguous and binding on parties and therefore have full legal force. The international legal framework on oil and gas on the other hand, largely relegated environment issues (and by implication even climate change aspects, since climate change was not as widely appreciated then as it is today) to national laws and model contracts.

CHAPTER FIVE

NATIONAL LEGAL FRAMEWORK ON CLIMATE CHANGE AND OIL AND GAS

5.0 Introduction

This section focuses on Uganda's regulatory framework aimed at mitigating climate change in the oil and gas industry. The extent to which climate change has been mainstreamed both in formulation and practice is assessed. The section also explores how the international legal framework for climate change discussed in Chapter 5 has been domesticated in national law. Domestication (ratification) of international legal framework (treaties) in Uganda is governed by the Constitution of the Republic of Uganda (1995) and the Ratification of Treaties Act Cap 204[71]. The Constitution under Article 123(2) provides that Parliament shall make laws to govern the ratification of treaties, conventions, agreements or other arrangements and it is in line with this that the Ratification of Treaties Act was enacted.[72]

5.1 National Policy and legal Framework for Climate Change Action

At national level, The Ugandan Constitution (1995 as amended in 2005), sets the stage for climate change governance as it provides for a clean and healthy environment, citizen participation in development, rights to own, and compensation for losses of property.[73] Climate change and the principle of sustainable development run through Uganda's development agenda, especially in the Uganda Vision 2040 and NDPII. Implementation of the SDGs, responding to climate change and promotion of the green economy are the main tenets of Uganda's socio-economic transformation and achievement of the Vision 2040.

Uganda has domesticated international and regional treaties through the development of the national policies and plans. Climate change is recognized at the highest level of government not only as a threat to socio-economic transformation and poverty reduction, but also as an opportunity for promoting sustainable development and green growth. In order to implement the Paris Agreement, countries are obliged to develop and implement ambitious climate actions also known as Nationally Determined Contributions (NDCs) of the Paris Agreement. The NDCs are very pivotal in international climate policies as they include the targets and measures that each country has committed in the Paris Agreement to reduce Green House Gases (GHG) emissions. In Uganda, the expected emission reduction is 22% emission cuts on a Business as

[71] The Constitution of the Republic of Uganda 1995.
[72] The Ratification of Treaties Act, Chapter 204, Volume 8, Laws of Uganda.
[73] Golombok, R., Jones, M. I., 'Oil Governance in Uganda and Kenya: A review of efforts to establish baseline indicators on the impact of the oil sector in Uganda and Kenya.' UNEP, Nairobi, Kenya (2015).

Usual (BAU) basis by 2030 due to a series of policies and measures in among others, the energy sector.[74]

In conformity to the commitments to UNFCCC, Uganda developed and submitted its Nationally appropriate mitigation actions (*NAMAs*). The proposed NAMAs have been aligned to needs of the country, such as reducing poverty, creating employment, mitigating the impacts of climate change and ensuring that the NAMAs contribute to the sustainable development of Uganda as a priority focus for the Uganda Vision 2040. Out of the 40 mitigation actions in the agriculture, energy, transport and waste sectors, eight priority actions were identified for Uganda's mitigation efforts on climate change. These included[75]: from agriculture sector: Promotion of Upland Rice and Mitigation of Emissions Resulting from Livestock; the energy sector focused on Institutional Stoves in Educational Institutions and Vehicle Fuel Efficiency; Transport sector on Bus Rapid Transit for Kampala and Enforcement of periodic vehicle inspection for road worthiness while the waste sector had municipal solid waste compost for smaller urban areas and integrated waste water treatment. It is important to note that whereas the NAMA development process in Uganda was initiated in 2013, much later than the discovery of oil, the oil and gas sector was not among those earmarked for priority actions. This may be partly because production has not yet started yet it is my opinion that preparation nonetheless remains superior than waiting for eventualities that may well be out of control. It is also posited that it is likely to take some time before Uganda organizes its fossil fuel sector given the relatively limited experience it has had until now.[76]

The Government of Uganda has formulated a number of policies and plans to address climate change especially the National Adaptation Programmes of Action of Action (NAPA) which was launched in 2007; the National Climate Change Policy (NCCP) launched in 2015, the Nationally Determined Contributions in 2015, the draft Climate Change Bill (Act) 2017 and the Green Growth Development Strategy (GGDS) all aimed at guiding climate change activities and interventions in the country.

At national level, the National Climate Change Policy 2015, the National Determined Contribution (NDC), the draft Climate Change Bill (Act) 2017 and the Green Growth

[74] Uganda Coalition for Sustainable Development, The Paris Agreement: A Call to Action to Scale Up Stakeholder Engagement in Implementation of Uganda's Climate Action (Nationally Determined Contributions).
[75] Irish Aid, 'Uganda Climate Action Report for 2016'.
[76] UNDP, The Green Charcoal Project-Addressing Barriers to Adoption of Improved Charcoal Production Technologies and Sustainable Land Management Practices 2014-2018.

Development Strategy (GGDS) are the overarching climate change policies.[77] The Green Growth Development Strategy (GGDS) 2017/18 – 2030/31 whose strategy emphasizes the achievement of economic development in climate change resilient and low carbon development pathways, proposes specific strategies in the area of planned green cities, sustainable transport and clean energy for a green economic growth.

The National Climate Change Policy 2015 (NCCP) seeks to ensure a harmonized and coordinated approach towards a climate-resilient and low-carbon development path for sustainable development in Uganda'. The overarching objective of the policy is 'to ensure that all stakeholders address climate change impact through appropriate measures while promoting sustainable development and a green economy.[78] Whereas the Policy provides direction for key sectors likely to be affected by climate change and mandates these sectors and local governments to mainstream climate change concerns in their policies, plans, strategies, programmes and budgets, sectors like the oil and gas that are likely to exacerbate climate change are not adequately guided. With respect to mitigation potential, the policy notes that the discovery of oil and gas in Uganda will affect the energy matrix in the country in the medium term (especially as oil drilling and refining begins) and could greatly affect GHG emissions if the use of oil and gas is not properly managed. Among the specific strategies for addressing policy priorities for energy generation is one that directly addresses the oil and gas sector: it addresses itself to regulating the oil and gas sector and use of fossil fuels to reduce GHG emissions.

To fast track, the implementation of the NCCP, Uganda is putting in place a Climate Change Act (Law) to among others provide an enabling environment for mainstreaming climate change in different sectors including the energy sector in which the oil and gas falls; and to give force of law to the UNFCCC, Kyoto Protocol and Paris Agreement. It should be recalled that Ministry of Water and Environment in collaboration with the National Planning Authority (NPA) put in place Guidelines for integration or mainstreaming of climate change in sector plans and budgets.[79]

[77] ACODE, 'Strengthening Climate Resilience Through Integration of Climate Change, Women and Youth Issues in Uganda's Agriculture Sector, Analysis of Agriculture Related policies and Programmes', ACODE Policy Research Paper, 2019.
[78] Ministry of Water and Environment (MWE), 'National Climate Change Policy' (MWE, 2015).
[79] Ministry of Water and Environment (MWE), 'Guidelines for the integration of Climate Change in Sector Plans and Budgets' (MWE, 2014).

The Green Growth Development Strategy (GGDS) 2017 /18 – 2030/31 is yet another policy instrument that pursues a low emissions economic growth process focusing on the sustainable use of available capitals. The strategy emphasizes climate resilient pathways and identifies oil and gas among others as one of the sectors with an enormous wealth creation and green growth potential.

Nationally Determined Contributions (NDCs): Uganda submitted its Intended Nationally Determined Contribution (INDC)[80] to UNFCCC in the run up to COP 21(December 2015) and the Paris Agreement. The INDC was transformed into the Nationally Determined Contributions which highlight the country's contribution towards curbing global temperature rise to below 2°C by the end of the 21st century (Uganda's contribution to the implementation of the Paris Agreement). While Uganda prioritizes adaptation, its focus on mitigation is on energy issues (power supply, demand and transport), forestry and wetlands. The NDCs are however silent on the oil and gas industry.

A review of the above policy instruments indicates a general consideration of energy as a potential sector for climate change interventions. However particular alignment to oil and gas sector is not explicit.

5.2 The Oil and Gas Policy Framework and Climate change

Before commercial discovery of oil, Uganda did not have a comprehensive legal framework to regulate her oil sector. Besides the Constitution of Uganda, The Petroleum (Exploration and Production), Act No. 20 of 1985 was for long the law applicable to the management of Uganda's oil and gas sector and this combined exploration, discovery and production and a number of related matters. Given the discovery of commercially viable quantities of oil, Uganda embarked on making other laws, policies and regulations to govern the oil and gas sector. Some of these include the National Oil and Gas Policy (NOGP), 2008, the Oil and Gas Revenue Management Policy (OGRMP), 2012, the Petroleum (Exploration, Development and Production) Act, 2013, the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013 and Public Finance Management Act (PFMA) of 2015.

[80] Ministry of Water and Environment (MWE), 'Uganda Intended Nationally Determined Contribution' (MWE, 2015).

The National Climate Change Policy discussed above makes reference to the National Oil and Gas Policy for Uganda, approved in 2008 as one among others that makes provisions to limit GHG emissions increases by prohibiting the venting of gas and discouraging flaring of oil and gas. Indeed, the National Oil and Gas Policy for Uganda is the overarching oil and gas policy in Uganda. Its overall goal is to use the country's oil and gas resources to contribute to early achievement of poverty eradication and create lasting value to society. The policy provides for environmental protection with mostly mitigation measures for example gas utilization (as a means to reduce deforestation); discouraging flaring of oil; prohibiting the venting of gas (to reduce greenhouse effects); promotes control measures against the release of hazardous gases, chemical wastes and spills into the atmosphere and endorses the "polluter pays" principle. Whereas mitigation measures are enumerated as illustrated above, it is important to note that the National Oil and Gas Policy was developed in 2008, before the NCCP came into force in 2015 and therefore does not explicitly address climate change including its impact on the oil and gas sector.

The Oil and Gas Revenue Management Policy provides for environmental taxes in addition to other taxes on their share of profit oil but the provisions are not yet activated in legislation or action. To address climate change arising out of emissions, there would be need for a carbon tax. What currently remains unclear is whether these environmental taxes provided for in the Oil and Gas Revenue Management Policy include carbon taxes. Furthermore, environmental taxes are managed as part of the consolidated fund which poses challenges in directly appropriating them to remedy any form of environmental damage. There is a proposal to include a climate change fund in the Climate Change Act in conformity with the Public Finance Management Act (2015) to among others provide for mobilization of resources and integration of the funds into the planning, budgeting, reporting and accountability processes prescribed by the Act. The oil and gas industry would be one of the contributors to this fund as one of their mitigation efforts. Respondent III however shares some schools of thoughts around the issue of environmental taxes. He posits that since it is a requirement for environment to be mainstreamed in all sectors, then environment matters are consequently provided for from the consolidated budget although he quickly adds that environmental issues are one of those that receive a low share of the budget. Another constraint cited by Ministry of Finance, Planning and Economic Development is that there have been many funds already in place whose performance has not been very effective yet they come with increased costs of running them.

This also highlights the financial challenges of tackling climate change in Uganda. The idea that climate change is an environmental issue follows the treatment of a 'crosscutting issue' that is mainstreamed in other sectors and not prioritised in the context of already limited sector budgets.

The Petroleum Exploration Development and Production Act 2013 generally provides for environment issues including Environment Impact Assessments, Health, Safety and Environment issues. Although climate change is not explicit in the law, a number of climate change mitigation issues are included. This observation is true for the Petroleum (Refining, Conversion, Transmission and Midstream Storage) 2013 and the Public Finance Management Act. There are several regulations under these laws namely: Petroleum Waste Regulations, The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Regulations, 2016; the Petroleum (Refining, Conversion, Transmission and Midstream Storage) (Health, Safety and Environment) Regulations, 2016; The Petroleum (Exploration, Development and Production) Regulations, 2016; The Petroleum (Exploration, Development and Production) (Health, Safety and Environment) Regulations, 2016. All these regulations provide for environmental issues including pollution, compliance with environmental principles, HSE (with emphasis on the working environment), decommissioning, and environmental monitoring among others.

The analysis shows a pattern of 'environment' nomenclature with a glaring omission of climate change issues right from the 2008 Oil and Gas Policy. It is therefore not surprising that the ensuing laws follow the same nomenclature making it apparent that you cannot provide for what you do not consider as a problem. Key informant III (from ACODE) concurs when he notes that at the time of developing the policy and the Petroleum laws, climate change issues were not as prominent and that even environmental issues were included after rigorous research, bench marking and advocacy efforts. The respondent adds that it was generally understood that these were petroleum laws and not environment laws. From some of the statements (for example Petroleum laws are not looking at the environment; This is not an environmental law. It is the petroleum development law, wait for EIA and SEA), the respondent buttresses the observation that any environment related issues were deemed fit for environmental laws rather than petroleum laws. The respondent notes that to navigate these resistances, relevant CSOs formed an advocacy coalition called the Civil Society Coalition on Oil and Gas in Uganda (CSCO). This way, we positioned ourselves in different spots during

public hearings and consultations in order to increase our chances of exhaustively highlighting environmental concerns posed by the oil and gas sector. -ACODE key respondent

The respondent also notes that having succeeded on including environment issues, by inference climate change mitigation issues especially those targeting auxiliary sources of GHG emissions (use of renewable energies, alternative sources of fire wood among others) were included. The study posits that although this was indeed a commendable effort, it did not address the issue of direct emissions from the oil and gas industry. This is happening in a context where it is upon the discretion of various actors to inform Climate Change Department of their climate actions yet the ideal situation would be to make it mandatory for sectors, agencies and other organizations to monitor and report on levels of emissions.[81] Furthermore, the situation is complicated by the ambiguities on which emissions to report on. Of the six (6) greenhouse gases (carbon-dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6)) prescribed in the Kyoto Protocol, Uganda reports on only three (3) gases i.e. carbon-dioxide, methane and nitrous oxide; Uganda's NDCs provides a target reduction of approximately 22 percent of national greenhouse gas emissions in 2030 compared to business-as-usual.[82] It is therefore apparent that there exists discrepancies on which gases to monitor and report on, in addition to the general technological challenges in monitoring and reporting greenhouse gases at sector level. These are exemplified in limited tools, equipment and skills. A regulatory framework that explicitly clears these ambiguities for all sectors including the oil and gas would be a step in the right direction.

In regard to the extent of integration of climate change issues within the oil and gas sector, different respondents note the following:

> Climate change is an emerging issue which was not on the agenda before 2008. The framers therefore did not provide for it; At the time of developing the policy and the Petroleum laws, climate change issues were not as prominent. Even environmental issues were included after rigorous research, bench marking and advocacy efforts; Climate change has been lacking in the oil and gas laws.

[81] Bakiika, R., Naigaga, S. and Mbatuusa, C. 'Perspectives for legislating against climate change in Uganda 'Working Paper 3 (EMLI, 2017).
[82] Ministry of Water and Environment (MWE), 'The Uganda Second National Communication to the UNFCCC, (MWE, 2014).

Notwithstanding the Climate Change Bill 2017, Uganda currently lacks a clear law guiding greenhouse gas emissions reduction. It suffices to note that absence of such domestic legislation compromises the effectiveness of international treaties and agreements such as the Kyoto Protocol and the Paris Agreement under the UNFCCC. This is exactly what key Respondent IV (Green Watch International) cites as the greatest impediment to climate litigation.

> Relying on the constitution alone is prohibitive as it does not allow bringing in scientific information in climate litigation. There is need for a more robust legal framework on which to base, to hold government accountable for the international agreements signed and the oil and gas companies to comply with the set standards.

The analysis also shows that all the petroleum regulations make reference to a number of environmental laws most notably the National Environment Act (NEA) 2019. In cognizance of the fact that most of the laws in Uganda including oil and gas laws do not have specific provisions addressing climate change adaptation and mitigation, the National Environment Act 2019 was enacted to provide specific legal provisions for addressing climate change.[83] The Act however, is a framework law and as such may not adequately provide for sector specific issues. It is also important to remember that the NEA has only recently been repealed much later than the oil and gas regulatory framework. The question is whether the spirit behind the preceding laws and the 2016 regulations and their reference to the NEA embraced climate change issues as addressed in the 1995 law or now that the law is climate change proofed, it automatically aligns the petroleum regulations with climate change? Whereas it is true that once a law is repealed, the new law takes effect, it is important that oil and gas laws are harmonized with the now effective NEA 2019. For the NEA 2019 (a progressive law that has embraced climate change issues) to be fully operational in the oil and gas industry, there is need for comprehensive regulations that are aligned to the law.

In addition, the NEA provides for environmental impact assessment (EIA) to be conducted for projects that significantly impact the environment an example being the oil and gas industry. These should among other environmental aspects provide for climate change issues. In fact, there is precedence where a South African High Court rejected the approval for development of a coal-fired power plant on the grounds of failing to include climate change and its impacts

[83] Bakiika, R., Naigaga, S, and Mbatuusa, C. 'Perspectives for legislating against climate change in Uganda 'Working Paper 3 (EMLI, 2017).

as relevant considerations for the EIA of such a project. [84] Total's Tilenga ESIA highlights that its activities are likely to result in moderate or insignificant emissions but is silent about tracking and reporting these emissions. Key respondent V notes that among the issues cited against Total are: the gap or room left for the company to determine climate change concerns; the room to carry out gas flaring on a case by case as Total deems necessary and its operations in sensitive ecosystems. It is these that triggered public outcry and opposition from a number of civil society organizations climaxing in the already cited court case against Total. Key respondent V further notes that perhaps this is the reason why whereas CNOOC's Kingfisher ESIA has been approved, its attendant approval conditions have not been published for fear of public scrutiny.

Further, the National Environment Act clearly stipulates that in consultation with NEMA,

1) The lead agency (in this case the MEMD) may put in place guidelines and prescribe measures to—

(a) address the impacts of climate change on ecosystems, including by improving the resilience of ecosystems, promoting low carbon development and reducing emissions from deforestation and forest degradation, sustainable management of forests and conservation of forest carbon stock; and

(b) advise institutions, firms, sectors or individuals on strategies to address the impacts of climate change, including those related to the use of natural resources.

(2) The lead agency shall, within its mandate and in consultation with the Authority—67

(a) take measures and issue guidelines to address the impacts of climate change, including measures for mitigating and adaptation to the effects of climate change; and

(b) liaise with other lead agencies to put in place strategies and action plans to address climate change and its effects.

[84] Burger, M and Gundlach, J, 'the Status of Climate Change Litigation, A Global Review (UN Environment, 2017) in Bakiika, R., Naigaga, S. and Mbatuusa, C. 'Perspectives for legislating against climate change in Uganda 'Working Paper 3 (EMLI, 2017).

This is indeed in line with the provisions of the National Climate Change Policy 2015. Through the Climate change mainstreaming guidelines developed by MWE and NPA, the policy is guiding the mainstreaming process of climate change resilience and low carbon development in all sectoral, national and local policies, plans and budgets. Whereas sectors like agriculture[85] and lands have developed sector specific climate change mainstreaming guidelines, others including the energy sector where oil and gas falls are yet to develop theirs. The language used in the NEA *('may put in place guidelines')* leaves it to the discretion of the agency which may not take it as a priority. Without mandatory requirements to the sector institutions, mainstreaming climate change in oil and gas activities may remain a mere wish.

5.3 Strategies of Oil Companies in Uganda to Address Climate Change

The study also aimed to establish the strategies that oil companies had put in place to address climate change. Three companies were considered.

5.3.1 Total Uganda

Total started operating in Uganda in 1955. In 2012, Total acquired interests in blocks 1, 2 and 3A in the Albertine region. Production licenses were granted to the project joint venture partners in 2016, and a 1,445km oil pipeline is being planned. By acquiring GAPCO's assets in 2017 in Kenya, Tanzania and Uganda, Total has expanded their service network and supply in in East Africa. The company considers itself a global integrated energy producer and provider and a major player in low carbon energies.

5.3.1.1 Tackling climate Change in Total Uganda

In their 2017 'Integrating Climate change into our Strategy report' it is highlighted that in 2008, the company treated climate change as a separate risk that required measures to reduce the foot print of Total's activities. [86] However, climate change issues have since been fully integrated in the company's business and strategic vision. Total is tackling climate change at a number of frontiers including: a) developing renewable energies by expanding the company's activities along the photovoltaic value chain, adding energy storage, developing bio energies and promoting access to energy; b) improving energy efficiency by: reducing greenhouse gas emissions at the company's facilities; providing product and service solutions to encourage responsible energy use by their clients; c) Technology for carbon capture, utilization and

[85] Ministry of Agriculture, Animal Industry and Fisheries, 'Guidelines for mainstreaming Climate Change Adaptation and Mitigation in Agriculture Sector Policies and Plans, (MAAIF, 2018).
[86] Total, '2017 Integrating Climate change into our Strategy Report'.

storage. Total argues that natural gas is currently the best option for combating climate change and that by 2030, gas may comprise 60% of their overall output. This is so because of its abundance and availability thereby making it able to provide energy access to the world. It must however be noted that whereas gas has lower greenhouse gas emission levels compared to fossil fuels, its production and transportation presents methane emissions which must be mitigated. Total is also leveraging partnerships that will enhance devising of solutions for example the company is a member of the Oil and Gas Climate Initiative. For the outlook, the company is developing an investment fund to finance start-ups and innovative initiatives that will address the issues of energy access especially in Africa; finance research and development of low carbon technologies; and to ensure that in 20 years' time, Total's low carbon businesses account for close to 20% of the company's portfolio.

The key respondent affirms this by highlighting that Total recognizes that the world's reliance on fossil fuels must give way to more sustainable alternatives and has transformed its business model and vision for the future accordingly. To factor the challenge of climate change into the global business model, Total has decided to use the IEA Sustainable Development Scenario (SDS) as the benchmark. Under this scenario, the IEA sets out how to keep global warming below 2°C, particularly by defining: The energy mix needed to meet world energy demand in 2035; and the three energy levers to be acted upon including: Renewables, Energy Efficiency, Transition to natural gas, nuclear sector and carbon capture & storage

The shift from heavy hydrocarbons to lighter options and renewables is now underway for Total but oil and gas will still make up approximately 46% of the energy mix twenty years from now. Some examples of how Total is transitioning in a changing energy market are as follows:

5.3.1.1.1 Supplying clean energy by aiming to reduce the carbon intensity of Total's energy mix:

i. Crude oil that is both cost competitive, in terms of production and processing, and clean, because it is produced without flaring (continuous flaring to be phased out as from 2030). The Tilenga project design in Uganda for example will not have any routine flaring activities.
ii. Natural gas, which is the least carbon-intensive fossil fuel-Total is raising the proportion of gas in their portfolio and actively participating in the development of gas markets by investing downstream of the chain.

iii. Carbon capture, utilization and storage (CCUS) technologies, are vital to achieving carbon neutrality. For this reason, Total will allocate a significant proportion of their R&D budget (up to 10%) to CCUS.

iv. Total's decision to withdraw from coal.

v. Developing renewable energies and integrating new businesses to boost their growth: Not only are renewable energies a crucial component of the SDS, they will also be a significant source of growth for Total twenty years from now. This is because, like gas, they are used to generate electricity, for which demand is going to increase faster than the demand for energy as a whole.

    i) The challenge with solar power will be to remain one of the world leaders (by capitalizing on Sun Power's strengths) while developing business along the entire photovoltaic chain. Total will also need to successfully deploy the technology to continents such as Africa, which will certainly extend electrification by moving straight to decentralized production from renewables.

    ii) The complementary rise of gas and renewable energies is a compelling reason to adopt a more comprehensive approach to the electricity value chain. That's why Total wants to expand into trading of electricity from renewable sources and position themselves in the energy storage market.

    iii) Total intends to develop bio energies, which will account for a significant percentage of the energy mix in the future as electricity will not be able to meet all energy needs, particularly in transportation.

5.3.1.1.2 Improving Energy Efficiency

The SDS assumes a major leap forward will be needed in energy efficiency which is why Total must keep up efforts to continuously improve the efficiency of existing industrial facilities and by ensuring sufficient focus is on customer related challenges.

Total's operations in Uganda will be subject to development within the overall strategy already outlined above. With regard to the upstream and midstream development projects, Total will continue to ensure that the design of the facilities is in line with Total global strategies i.e. no routine flaring associated with operations, feasibility studies to look at power export and import routes as well as investing in carbon offsetting schemes and strategies.

The key respondent I highlights that Total E&P Uganda tracks on a monthly basis its GHG emissions associated with all its activities including electricity usage, liquid fuels, water usage

among others. Furthermore, as part of the Environmental and Social Impact Assessment (ESIA) for the project, detailed GHG emissions profiles have been developed and modelling undertaken and this allows Total to predict the amount of GHG emissions for the project and their impacts throughout the life cycle in order to identify appropriate mitigation measures. Some of these include:

i) Implementation of energy efficient technologies for power generation & flaring, no venting policy, vapour recovery units on storage tanks, recycling of all produced water (zero discharge) among others
ii) Identification of CFR (Carbon Footprint Reduction) projects and undertaking detailed feasibility studies such as import of electricity, investing in conservation initiatives aimed at offsetting carbon emissions whilst enhancing the conservation and ecosystem services value such as setting up and supporting sustainable forest management programs.

Commenting about the potential increase of the GHG emission foot print arising out of Total's expansion and acquisition of GAPCO investments, the respondent notes that Total will continue to expand in line with the strategies for addressing climate change as outlined above.

Notwithstanding the above strategies, six NGOs have filed a lawsuit against Total over alleged failure to respect the French law on duty of vigilance.[87]Among other charges, Total is being sued for not fighting climate change hard enough and what others have called climate inaction.[88] The respondent notes that the legal action is against Total SA in France on the alleged failure of Total to disclose the nature of its activities in Uganda with respect to the Tilenga and EACOP projects as is required under Corporate Duty of Vigilance law in France. With respect to the issue of climate change, the measures by which Total in Uganda will reduce its GHG emissions has been outlined in the Environmental and Social Impact Assessments published for the Tilenga and EACOP projects.

5.3.2 CNOOC International

CNOOC International is one of the oil companies in Uganda's oil and gas industry and it operates the Kingfisher production license. In addressing climate change, CNOOC

[87] Friends of the Earth International, '6 NGOs file law suit against Total over alleged failure to respect to French duty of vigilance law in its operations in Uganda' *Business and Human Rights Resource Centre*, 31 January 2020,
[88] Aline Robert, 'Oil giant Total sued for 'climate inaction in France's first climate case' Euractiv.fr, 28 January 2020).

International recognizes the need to manage GHG emissions and have in place a range of actions including: using energy efficient technologies in facility construction, pursuing energy efficiency and conservation and investing in new technologies and innovation to improve emissions performance for the longer term. For jurisdictions with carbon pricing initiatives, CNOOC participates and invests in carbon markets as a means of meeting their compliance obligations.[89] For energy conservation, publicity and education about energy saving has been done and a set of metrics and KPIs for energy conservation set up.[90] Another strategy is a low carbon management system with reference to China's national policies and those of leading energy companies as well as requirements to implement climate and carbon management.

In 2018, CNOOC initiated the compilation of a "Green Low-Carbon Development Roadmap" and its implementation plan, which outlines the short-term, medium-term and long-term carbon emission reduction action plans for the Company. The Plan aims to optimize and integrate the energy control and low-carbon management information system that combines production with energy saving and carbon emission reduction. The company has also analyzed and researched the feasibility of carbon dioxide storage and CO2 flooding technology in offshore oil and gas fields. A Carbon Asset Management Plan and state-led studies on carbon emission bench marking to improve comprehensive carbon management are in place.

Although attempts to have a CNOOC interview to understand the company's specific strategies in Uganda were futile, one can deduce from the strategies at the international scene that CNOOC is still 'finding a footing' in these matters as all efforts are still on planning. Overall, there seems to be a bias on production efficiency rather than business diversification.

5.3.3 Uganda National Oil Company

Uganda National Oil Company was established under section 42 of the Petroleum (Exploration, Development and Production) Act and section 7 of the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act both of 2013 to handle government's commercial interests in the Petroleum sector and to ensure that the resource is exploited in a sustainable manner.

[89] CNOOC,' Addressing Climate Change' https://cnoocinternational.com/en/sustainability/environment, Accessed on 30 March 2020.

[90] CNOOC LTD Environmental And Social Governance Report https://www.cnoocltd.com/attach/0/828e24614a4e44abac7c4cad98a1d7e9.pdf2018 Accessed on 30 March 2020.

5.3.3.1 Tackling climate change in UNOC

Regarding climate change, UNOC recognizes that the contribution of the oil and gas sector to emissions is significant and therefore seeks to minimize emissions from their operations and strive towards providing more energy sources with less emissions.

The key respondent II notes that being in partnership with international oil companies, UNOC has not carried out an ESIA for itself but rather monitors to ensure that the partners in the joint venture have adequately addressed environmental and social impacts of associated projects. Particularly in the front end engineering designs, UNOC has ensured that emission reducing technology is used. On whether the IOCs would be willing to invest in such costly technology, the respondent notes that it is in the best interests of the partner companies to use these technologies so as to meet their emission reduction targets. He adds that International companies do not only need to comply with national laws but also international laws and standards.

For UNOC's separate undertakings however like the Kampala Storage Facility in Buloba, UNOC is mandated to carry out ESIA and in this clearly outline the mechanism of tracking and reporting on emissions.

In regard to concrete strategies for addressing climate change, the information is lean and this is buttressed by the respondent who notes that UNOC is just yet to begin business. Nonetheless, in the meantime, the respondent notes that UNOC's priority actions are the following:

i) Kampala Storage Facility: Climate change issues will be catered for right from the front end engineering designs that will emphasize mitigation using technologies that capture gases and recycle them back.
ii) Developing a Quality Health Safety and Environment Management System bench marked on global frameworks. This will further provide for emission reductions and climate action

Whilst UNOC seems to jointly 'own' the ESIA initiatives of other partners given the joint venture, the Total respondent, in commenting on whether the company supports UNOC in its climate initiatives, notes that currently, no detailed discussions on climate change initiatives have taken place but will certainly form part of detailed discussions once the final investment decision (FID) for the project activities is made.

From the characterization of the climate change mitigation strategies adopted by oil and gas companies, there are noticeable trends. One of the fundamental things that stands out is that it is no longer business as usual. Oil and gas companies are now faced with the challenges of climate change mitigation and the associated energy transition. How they respond however will usually depend on the relative advantage of specific emissions control actions and varies with a number of factors including: their shareholder base and public image; their resource portfolio and whether they are an OECD member country.[91] For example how smaller National Oil Companies (NOCs) like the UNOC address climate change mitigation heavily hinges on the financing and regulatory frameworks and policies in place. Like UNOC's focus on emission reduction in the front end engineering designs (FEED), smaller NOCs tend to focus on production efficiency to reduce their emissions in addition to restrictions on gas flaring.

Differences also emerge as a result of advancement in industrial activity. Industrial economies due to their impacts on the environment, have promoted legislation such as that requiring changes in oil products specifications. An example is the removal of lead in gasoline. Total Oil Company is already aligned to this having been able to carry out product diversification and more investment in research and development. Similarly, because of public relations and shareholder base, leading IOCs like Total are more likely to engage deliberate strategies for climate action than smaller IOCs and NOCs. International pressure exemplified in *The Shell vs Green Peace* case and others already cited above is something IOCs cannot take for granted. [92] Total, being an EU-based company is also checked by EU directives regarding emissions and recycling. This partly explains its diversification into electricity production including renewable energies like solar.

Another factor for the choice of strategy used is the amount of oil reserves where governments owning large oil and gas reserves may not aggressively engage in renewable energy development. This is because their reserves are enough to ensure domestic energy supply and export revenues. IOCs and NOCs with larger reserves may also feel that energy efficiency and emissions limitation measures from wellhead through to end-user delivery suffice for many of

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[91] Bill Barnes, 'Dividing lines appear in transition approaches.' (Petroleum Economist, 7 January 2020 https://www.petroleum-economist.com/articles/low-carbon-energy/energy-transition/2020/dividing-lines-appear-in-transition-approaches, Accessed on 30 March 2020.

[92] Tsoukas, Haridimos, 'David and Goliath in the Risk Society: Making Sense of the Conflict between Shell and Green Peace in the North Sea' 1999.

their obligations under the Paris accord.[93] This indeed resonates with the observation made of CNOOC and UNOC in their emphasis on operational efficiency measures as opposed to business model diversification. This is further buttressed by the observation that even within IOCs, there is a difference between those with large and small reserves. Companies with larger reserves often have less aggressive energy diversification targets, instead preferring to concentrate on energy efficiency and improved fuel qualities while those with smaller reserves tend to have more aggressive targets, often involving moving towards electricity.[94] Respondent IV (from AFIEGO) further affirms the above observations when he notes:

> Most companies target profit maximization and minimizing risks. The biggest risk is climate change since it affects their capitals. Total being owned by France, has signed international agreements and therefore needs to comply. Third world countries on the other hand have voluntary agreements amidst weak regulatory frameworks. This constrains monitoring. An example in the inability for the government of Uganda to monitor a certain technology used by EnviroServ (a subcontracted company). [95] It is therefore left to the company to provide data, a situation that makes regulators susceptible to regulatory capture.[96]

It is important to remember and appreciate Uganda government's efforts towards adopting renewable energy and energy efficiency across sectors. Notable among these are the solar installations, hydropower, geothermal energy and wind energy. The energy ministry recently opened up Uganda's first renewable energy demonstration site and this is envisaged to be one way that will save the country's small remaining green environment and consequently address climate change.[97] It therefore follows that Uganda is cognisant of the need for a transition to a low carbon economy but continues to grapple with energy poverty, financial and technological challenges as already discussed above.

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[93] Bill Barnes, 'Dividing lines appear in transition approaches.' (Petroleum Economist, 7 January 2020 https://www.petroleum-economist.com/articles/low-carbon-energy/energy-transition/2020/dividing-lines-appear-in-transition-approaches, Accessed on 30 March 2020.

[94] Bill Barnes, 'Dividing lines appear in transition approaches.' (Petroleum Economist, 7 January 2020. https://www.petroleum-economist.com/articles/low-carbon-energy/energy-transition/2020/dividing-lines-appear-in-transition-approaches, Accessed on 30 March 2020.

[95] EnviroServe deals in waste management solutions.

[96] AFIEGO is Africa Institute for Energy Governance, an independent policy research and advocacy NGO.

[97] David Lukiiza,'Uganda's first renewable energy demonstration site opened' *New Vision* (Luwero, 12 April 2019)

5.4 Conclusion

The study concludes that most of the information provided by the key informants on the alignment of the national oil and gas legal framework with climate change resonated well with the findings from document reviews. That climate change had not been adequately provided for in the oil and gas regulatory framework was a glaring fact observed. Although the line between environment and climate change issues appeared thin in some respondents' views, it was a generally shared opinion that it is critical to delineate the two as they present different regulatory compliance ramifications. Considering that most of the national climate change legal frameworks domesticate nonbinding international framework, they are inadequate for enforcement and holding parties accountable. This therefore points to the need to expedite the development of a climate change law. The national oil and gas regulations of 2016 make reference to the 1995 NEA (which was inadequate to address climate change) and must therefore be aligned to the 2019 NEA. The oil and gas companies too must be monitored to ensure compliance with the legal framework on climate change.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter presents the key highlights of the analysis of the regulatory framework for mitigating climate change in the oil and gas sector in Uganda. The gaps in both the international and national regulatory frameworks that need to be addressed for improved climate change mitigation in the oil and gas sector are flagged and recommendations thereof made.

6.1 Summary of Findings

Uganda's total carbon footprint although much less than that of Europe is increasing annually. Planned projects such as commercial drilling, the oil pipeline and refinery combined together will certainly change Uganda's GHG profile by 2025. Whereas there is some information on the energy sector's contribution to greenhouse gas emissions in Uganda, information about the direct contribution of the oil and gas industry is still scanty. The argument that oil production has not yet started although a plausible one, misses the other auxiliary sources of greenhouse gases like vehicle emissions, embodied carbon in construction materials, and the loss of carbon stock sources during site clearance activities that can already be tracked. The fact that the ESIAs do not clearly provide for carbon tracking and reporting also highlights the fact that discretion is left to the companies which may not prioritize it. This situation is further amplified by the numerous unresolved ambiguities on which greenhouse gases Uganda is mandated to track and report on.

6.1.1 Existent International Regulatory framework that address Climate Change Issues

With respect to the question of the international regulatory frameworks for climate change, the findings revealed among others: The Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June 1972; Our Common Future (Brundtland Commission Report, 1987), The Ministerial Declaration of the Second World Climate Conference adopted on 7 November 1990; The UN Desertification Convention, 1994; The Vienna Convention for the Protection of the Ozone Layer, 1985: The Rio Declaration, 1992, Sustainable Development Goals (SDG 13 has been designated to address climate change),

The United Nations Framework Convention on Climate Change (UNFCCC) is the principal global agreement focused on preventing dangerous human interference with the climate system. It is upon this that the Kyoto Protocol and the Paris Agreement on Climate Change build on.

6.1.2 Gaps in the international regulatory framework for climate change mitigation in the oil and gas industry

At international level, there are conventions and treaties (such as the UNFCCC and ensuing protocols and agreements) that ideally provide the international framework and guidelines for climate change. What is apparent though is that international climate change legal frameworks have outpaced international petroleum laws that have mostly focused on environmental matters in a more general sense thereby leaving out climate change issues. It is also important to note that not many member states have developed specific climate change principal legislation in form of Acts of Parliament, regulations, bye laws to mention but three to provide for climate change matters and enforcement thereof. Possibly, this explains why in the cited climate change related cases, the courts were constrained to fully consider and resolve them using climate change law but rather relied on general provisions of environmental and human rights law. Perhaps there is need for reference to the SDGs that give climate action clear prominence (SDG 13) as distinct from general environmental issues and human rights.

In sum, the international legal framework on climate change has been set, but remains insufficient in itself without the enabling legal infrastructure of member states or parties that are signatory to the same. The language adopted in some of the international instruments equally requires urgent reform to make it clear, unambiguous and binding on parties and therefore have full legal force. The international legal framework on oil and gas on the other hand, largely relegated environment issues (and by implication even climate change aspects, since climate change was not as widely appreciated then as it is today) to national laws and model contracts.

6.1.3 Gaps in the national regulatory framework for climate change mitigation in the oil and gas industry

At national level, the findings show that the oil and gas regulatory framework was developed at a time when climate change issues were not fully appreciated. In other instances, they were considered environmental issues which had no importance in petroleum laws and that they were better off saved for environmental legislation especially the EIAS and SEAs. It ought to be noted that most of the oil and gas regulations of 2016 make reference to the 1995 NEA, the overarching environmental law which was recently repealed to among others provide for emerging issues like climate change and oil and gas. The NEA, being largely a framework law, is thin on the oil and gas specifics which therefore points to the need for sector specific (in this case the energy sector) climate change mainstreaming guidelines as provided for in the Climate Change Policy 2015. Enactment of a climate change law would be very pivotal in fast tracking this policy provision which has hitherto remained unimplemented by most sectors. It was also established that oil companies choose a climate strategy basing on among other factors, the local and international governance structures present. UNOC and CNOOC are mostly focusing on operational efficiency measures as opposed to business model diversification that Total (an EU-based company that is also checked by EU directives regarding emissions and recycling) has mostly adopted.

6.2 Conclusion

The flagship conclusion is that climate change issues are not adequately addressed in the oil and gas regulatory framework. The framers of the oil and gas policies and laws adopted an 'environmental nomenclature' the reason why the few climate change parameters included, are blanketed within environmental provisions. Whereas Uganda is in the process of developing a climate change law, currently climate change matters are addressed in the National Environment Act (NEA) 2019, a largely framework law and as such not concrete on oil and gas-climate change nexus specifics. Furthermore, the oil and gas regulations of 2016 make reference to the 1995 NEA which has since been repealed to provide for among others climate change. Without a robust legal framework on climate change within Uganda's oil and gas sector therefore, petroleum companies are likely to avoid all effort and costs of compliance. Notwithstanding the argument that there is a thin line between environment and climate change issues, the analysis shows that there are glaring regulatory ramifications once the two are not separately and adequately addressed.

6.3 Recommendations

With reference to the above conclusions, the recommendations here under are assigned to relevant stakeholders for consideration and implementation:

In light of the conclusion that there is scanty information available on the direct contribution of the oil and gas sector to greenhouse gas emissions and climate change:

Government (Ministry of Water and Environment-Climate Change Department (CCD) and National Environment Management Authority) needs to:

i. improve on emissions tracking and reporting. This in part requires enhancing the technical capacities of the custodians of the GHG inventory at CCD but also equipping other relevant players with skills and equipment to track and report on their respective emissions
ii. harmonize and clarify on the number and nature of greenhouse gases that it is mandated to report on
iii. make it mandatory, regardless of amounts, for oil and gas companies to track and report on their greenhouse gases
iv. sensitize the general public about the contribution of the oil and gas sector to greenhouse gas emissions and climate change so as to empower them with information as important stakeholders in the oil and gas governance.

Civil Society Organizations: need to sensitize the general public about the contribution of the oil and gas sector to greenhouse gas emissions and climate change so as to empower them with information as important stakeholders in the oil and gas governance.

To meet Uganda's obligations as stipulated in the international regulatory framework for climate change mitigation in the oil and gas industry, government needs to fully domesticate the treaties that Uganda is signatory to. This is in cognizance of the principle of sovereignty of states under international law, which cautions that merely ratifying the treaty does not give full force for local courts to enforce climate change provisions in international instruments

In order to address the gaps in the national regulatory framework for climate change mitigation in the oil and gas industry, the following need to be addressed by:

Government:

i) The oil and gas regulatory framework needs to be revised to include climate change provisions. The overarching oil and gas policy for example is of 2008, well before climate change issues were fully appreciated and legislated upon.

ii) The ensuing oil and gas regulations of 2016 adopt the exclusive environmental nomenclature from the framers of the policy and are therefore not explicit on climate change. The regulations further make reference to the 1995 NEA which has since been repealed. It is therefore critical for said regulations to be expeditiously revised and aligned with the 2019 progressive NEA.

iii) To adequately enforce the climate change policy provisions within the oil and gas sector, there is need for a climate change law to reinforce the NEA 2019 which is largely a framework law.

iv) The Ministry of Energy and Mineral Development needs to expedite the process of developing energy sector specific climate change mainstreaming guidelines as guided by the National Climate Change Policy 2015.

v) The oil and gas regulatory framework should provide for economic instruments such as taxes, tradable permit schemes, and financial or administrative incentives for desirable behaviour for climate change mitigation.

vi) There should be legal provisions for compensating victims of climate change disasters. Similarly, the legal provisions must be enhanced and made robust enough to enable climate litigation which has hitherto been constrained by lack of among others, the climate change law. Provisions that will require lead agencies to put in place mechanisms or procedures to reduce emissions and minimize impacts of climate change should be included in the climate change law.

vii) The government through its lead agencies should liaise with the oil and gas companies for support in the development and enhancement of its climate change policy, guidelines and laws as it has done for other subjects such as the National Biodiversity Action Plan and National Oil Spill Contingency planning.

In regard to the choice of strategies adopted by oil companies in Uganda to address climate change:

Oil companies:

i) There is need for national oil companies like UNOC to aggressively plan for climate change mitigation beyond the efforts of their partners in the joint venture. The earlier UNOC engaged in business and product diversification, the better. This will not only give it a competitive edge but will also help address the energy poverty that the country continues to grapple with.

ii) Since IOCs continue to be involved in pilot schemes and Research &Development projects across global portfolio with activities ranging from investment in carbon sinks & offsetting programs (for example photolytic technology development); to investing in energy efficiency projects for assets (such as advances in methane monitoring using drone technology) and improvements in the way they report their GHG emissions globally, it is important to capture key lessons learned as these play an important role in the overall development and implementation of a strategy for tackling climate change by oil companies.

Government:

i) There is need for long-term policy frameworks in which carbon pricing plays a central role and directs capital towards lower carbon options. This will allow energy companies to ensure that activities are commercially viable, aligning them with customer demand, stakeholder and shareholder concerns, and regulatory developments. Long-term visibility will allow international oil companies to understand the opportunities, manage the risks and take informed decisions to make effective and sustainable contributions in addressing climate change.

ii) While implementing solutions like carbon taxes and carbon pricing, it should be noted that there is need to tailor them to the Uganda's level of development as it may be counterproductive to create a one-size-fits-all solution. Putting a price on carbon will create incentives for reduction of emissions on a larger scale and at a relatively lower cost than alternative policies.

iii) There is need to align domestic climate change financing and regulatory frameworks with international agreements both in formulation and implementation so as to facilitate consistent behaviour of IOCs in all jurisdictions. This way they will not take advantage of the weak governance structures in jurisdictions (like Uganda) with gaps in the regulatory framework.

From the foregoing analysis, the notion of natural resource governance is exemplified. The key stakeholders in the oil and gas industry have been highlighted and the role played by each is abundantly clear. The importance of civil society organizations and the power of advocacy coalitions has been highlighted; the demands of international financial institutions and international agreements all play a critical role in shaping Uganda's legal approach to effectively mitigating climate change in its nascent oil sector. It is the researcher's hope that the results from this study will get off the proverbial shelfs, inform policy in general and guide climate change mitigation efforts in Uganda's oil and gas industry in particular. It is better to prepare rather than be caught off guard.

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APPENDICES

Appendix I: Observations from key respondents about the oil and gas regulatory framework

Respondent	Observation	Other comments
Key respondent I(Total E&P)		TOTAL will continue to engage with GoU on the development of its climate change policy, legislation and guidelines development as it has done for other subjects such as National Biodiversity Action Plan and National Oil Spill Contingency planning.
Key respondent II (UNOC)	Climate change is an emerging issue which was not on the agenda before 2008. The framers therefore did not provide for it	The NEA 2019 has provided framework but there is need to amend petroleum laws to capture climate change. Although oil production has not yet started, the transport sector is a good starting point.
Key respondent III (ACODE)	At the time of developing the policy and the Petroleum laws, climate change issues were not as prominent. Even environmental issues were included after rigorous research, benchmarking and advocacy efforts.	Environment related issues had been relegated for environmental laws and instruments like Environmental Impact Assessments and Social and Environmental Assessments The debate then was how much can be included in the petroleum laws?'
Key respondent (Green Watch International)	Climate litigation has been constrained by lack of enabling laws.	The constitution alone with its 'right to a clean environment' is not enough. Countries like Kenya have registered mileage because of their climate change laws.
Key respondent IV(AFIEGO)	Climate change has been lacking in the oil and gas laws	The NEA 2019 was enacted to among others include climate change issues.

Appendix II: Observations from key respondents about climate change strategies

Respondent	Observation
Key respondent I(Total E&P)	The energy sector has a social and moral responsibility to transform its business model in the wake of an increasingly urgent climate crisis. Therefore, the motivation is not necessarily driven by specific legislation but rather a global strategy aligned with global climate targets.
Key respondent II (UNOC)	UNOC is working closely with other IOCs in the joint venture.
Key respondent III (ACODE)	At the time of bidding, the following are key and it is these that we as CSOs focus on • The company's history of carbon emissions • Credibility on taxes and the environment record profile • CSR policy, environmental policy and international policies on environment • Total as an international company may have a policy that may not be cascaded down to its subcontractors whose services may be sensitive to the environment- we normally dig out this detail.
Key respondent (Green Watch International)	In some of our public interest litigation cases, we have received remedies such as GHG Inventory in 2016, compensation of victims of CC disasters. We are now tasking oil companies to report on their emissions in the inventory.
Key respondent IV(AFIEGO)	Most companies target profit maximisation and minimising risks. The biggest risk is climate change since it affects their capitals- natural, social etc. Total being owned by France, has signed international agreements and need to comply. Third world countries on the other hand have voluntary agreements amidst weak regulatory frameworks. This constrains monitoring. An example in the inability for the government of Uganda to monitor a certain technology used by EnviroServ (a subcontracted company). It is therefore left to the company to provide data, a situation that makes regulators susceptible to regulatory capture.

Appendix III: Key informant interview guide

Total/CNOOC/UNOC Questionnaire

Objective: What strategies have Oil companies in Uganda put in place to address climate change?

- What is the contribution of the oil and gas sector to greenhouse gas emissions and climate change?
- Has Total/CNOOC tracked its greenhouse gas emissions in Uganda? Similarly, are there mechanisms for Total/CNOOC/UNOC to track and report on the GHG emission potential for its upcoming projects e.g Tilenga, King Fisher and EACOP?
- What strategies has Total/CNOOC put in place globally to address climate change?
- What strategies has Total/CNOOC/UNOC put in place in Uganda to address climate change?
- Comment on Total's expansion and acquisition of GAPCO investments in light of increasing the GHG emission foot print
- Comment about Total's being sued by six NGOs for alleged climate inaction
- Is there any way Total/CNOOC supports the UNOC in its climate initiatives?
- The petroleum policy and regulatory framework in Uganda is not explicit on climate change. What is Total/CNOOC/UNOC's motivation to do climate action?
- What are the lessons learnt from other countries?
- Any further comments

Appendix IV: Letters from University