



NIGERIA'S LEGAL RESPONSES TO CLIMATE CHANGE OBLIGATIONS

IZOUKUMOR AFEDOLOR NOAH



A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF
THE UNIVERSITY OF THE WEST OF ENGLAND, BRISTOL FOR THE DEGREE OF
DOCTOR OF LAWS IN THE FACULTY OF BUSINESS AND LAW

MARCH 2022.

ABSTRACT

This thesis set out to analyse the effectiveness of the Nigerian legal mechanisms (laws, policies, regulations, and institutions) to achieve the international climate change obligations stemming from the UNFCCC, Kyoto Protocol, and the Paris Agreement. Key obligations created by these instruments are first to improve renewable energy, second, to reduce GHG emissions in the forest sector, and many others. These obligations from the climate change regime are related to important Sustainable Development Goals such as Goal 7 (energy) and Goal 15 (forest). These obligations are also linked with Nigeria's Nationally Determined Contribution (Nigeria NDC) commitments made under the Paris agreement. The Nigeria NDC pledged 45% emission reduction by 2030, and activities to achieve the 45% are centred on renewable energy development and forest improvement. The relationship between the climate change obligations, key Sustainable Development Goals, and the Nigeria NDC create an opportunity for the Nigerian government to achieve key priority areas in the climate change obligations, Nigeria NDC, and related Sustainable Development Goals. Findings of this thesis reveal that there are existing Acts enacted by the Nigerian Parliament, existing policies initiated by the Executive government of Nigeria, and institutions that could help realise these obligations. However, the Acts of the Parliament are restricted to reduce GHG emissions in gas flaring and do not cover other sectors such as coal mining and many others. While the policies may promote renewable energy development as well as reduce emissions in the forest sector. However, the policies are not implemented. Furthermore, there is no collaborative effort amongst the existing institutions to implement and achieve the climate change obligations. This thesis argues that the Nigerian government needs to prioritise emission reduction in the forest sector and increase renewable energy development to fulfil the climate change obligations. Therefore, Ministries, Departments, and Agencies need to collaborate and implement these key obligations, amend, the Climate Change Act to effect 45% emission reduction targets under the Nigeria NDC.

Contents

ABSTRACT	i
LIST OF TABLES	x
LIST OF FIGURES	x
LIST OF ABBREVIATION	xi
CHAPTER 1	1
INTRODUCTION	1
1.2 RESEARCH QUESTION	1
1.2 BACKGROUND TO THE RESEARCH	1
1.3 A BRIEF BACKGROUND OF NIGERIA	5
1.4 REVIEW OF EXISTING LITERATURE AND GAPS	8
1.4.1 OFFICIAL DOCUMENTS GUIDING CLIMATE CHANGE IN NIGERIA	8
1.4.2 SECONDARY DOCUMENTS: LITERATURE RELATING TO THE GLOBAL CONTROL OF GHG ...	10
1.4.3 EXISTING LITERATURE ON CLIMATE CHANGE RELATING TO NIGERIA	13
1.4.4 EXISTING LITERATURE ON LAW AND CLIMATE CHANGE IN NIGERIA	15
1.4.5 GAPS IDENTIFIED IN THE EXISTING LITERATURE	19
1.5 SUBSIDIARY RESEARCH QUESTIONS	20
1.6 AIMS AND OBJECTIVES OF THIS RESEARCH	22
1.7 CONTRIBUTIONS TO KNOWLEDGE	23
1.8 METHODOLOGY	25
1.9 METHODS	29
1.10 LIMITATIONS OF THE RESEARCH	31
1.11 STRUCTURE OF THE RESEARCH	32
CHAPTER 2	35
CLIMATE CHANGE, THE DRIVERS AND THE IMPACTS IN NIGERIA	35
2.1 INTRODUCTION	35
2.2 CLIMATE CHANGE	39
2.3 THE LINK BETWEEN HUMAN ACTIVITIES AND CLIMATE CHANGE	41
2.4 THE DRIVERS OF CLIMATE CHANGE IN NIGERIA	45
2.5 THE IMPACTS OF CLIMATE CHANGE IN NIGERIA	48
2.5.1 THE IMPACTS OF CLIMATE CHANGE ON THE ENVIRONMENT OF NIGERIA	50
2.5.2 THE IMPACTS OF CLIMATE CHANGE ON AGRICULTURE IN NIGERIA	54
2.5.3 THE SOCIAL IMPACTS OF CLIMATE CHANGE IN NIGERIA	56

2.5.3.1 CLIMATE CHANGE IMPACTS ON HUMAN HEALTH.....	57
2.5.3.2 IMPACTS OF CLIMATE CHANGE ON THE STANDARD OF LIVING.....	58
2.5.3.3 CLIMATE CHANGE AND INEQUALITY	60
2.6 KEY FINDINGS AND CONCLUSION	62
CHAPTER 3	64
INTERNATIONAL LEGAL FRAMEWORK OF CLIMATE CHANGE: PRINCIPLES AND LEGAL OBLIGATIONS OF NIGERIA	64
3.1 INTRODUCTION.....	64
3.2 THE MAIN CLIMATE CHANGE INSTRUMENTS.....	66
3.2.1 THE UNFCCC.....	66
3.2.2 THE KYOTO PROTOCOL	67
3.2.3 THE PARIS AGREEMENT	70
3.3 KEY ENVIRONMENTAL PRINCIPLES GUIDING THE CLIMATE CHANGE REGIME	72
3.3.1 THE PRECAUTIONARY PRINCIPLE (PP).....	73
3.3.2 COMMON BUT DIFFERENTIATED RESPONSIBILITIES (CBDR)	77
3.3.4 SUSTAINABLE DEVELOPMENT (SD)	81
3.3.5 POLLUTER PAYS PRINCIPLE (PPP).....	85
3.3.6 PUBLIC PARTICIPATION	87
3.4 GENERAL OBLIGATIONS ARISING FROM THE CLIMATE CHANGE REGIME.....	90
3.4.1 REDUCE EMISSIONS FROM THE AGRICULTURE, FORESTRY AND OTHER LAND USE (AFOLU) SECTOR.....	91
3.4.2 DEVELOPMENT AND PROMOTION OF RENEWABLE ENERGY (RE)	93
3.4.3 CLIMATE CHANGE EDUCATION.....	96
3.4.4 DUTY OF REPORTING CLIMATE CHANGE ACTIVITIES.....	98
3.4.5 INTEGRATION OF CLIMATE CHANGE MEASURES INTO NATIONAL POLICIES	100
3.5 THE ROLE OF ENVIRONMENTAL PRINCIPLE IN RELATION TO NIGERIA’S CLIMATE CHANGE OBLIGATIONS	102
3.6 THE PARIS AGREEMENT AND NATIONALLY DETERMINED CONTRIBUTION (NDC).....	103
3.6.1 THE DEVELOPMENT OF THE NDCs	104
3.6.2 THE NIGERIA NDC.....	105
3.6.3 COMPARING THE NIGERIA NDC TARGET AREAS WITH THE KEY EMISSION DRIVERS IN NIGERIA.....	109
3.7 THE SUSTAINABLE DEVELOPMENT GOALS (SDGs).....	110
3.7.1 SYNERGIES BETWEEN SDGs THE NIGERIA NDC AND CLIMATE CHANGE OBLIGATIONS	111
3.7.2 ASSESSMENT OF THE SYNERGIES BETWEEN CLIMATE CHANGE OBLIGATIONS, SDGs, AND THE NIGERIA NDC.....	112

3.7.3 THE BENEFITS OF LINKING CLIMATE CHANGE OBLIGATIONS, SDGs, AND THE NIGERIA NDC	114
3.8 THE STATUS OF THE CLIMATE CHANGE INSTRUMENTS AND THE SDGs IN NIGERIA.....	119
3.9 CONCLUSION.....	120
CHAPTER 4	123
LEGAL FRAMEWORK OF CLIMATE CHANGE RELATED LAWS AND POLICIES OF NIGERIA: THE ROLE OF PARLIAMENT AND THE EXECUTIVE ARMS TO INTEGRATE CLIMATE CHANGE PRINCIPLES	123
4.1 INTRODUCTION.....	123
4.2 THE ROLE OF NIGERIAN PARLIAMENT AND CLIMATE CHANGE INTEGRATION	126
4.2.1 THE CLIMATE CHANGE ACT OF NIGERIA.....	128
4.2.1.1 ASSESSMENT OF CLIMATE CHANGE PRINCIPLES IN THE CONTEXT OF CLIMATE CHANGE ACT	129
4.2.1.2 KEY FINDINGS FROM THE CLIMATE CHANGE BILL OF NIGERIA	132
4.2.2 KEY CLIMATE CHANGE RELATED LEGISLATION	133
4.2.2.1 THE PETROLEUM ACT 1969, PETROLEUM (DRILLING AND PRODUCTION) REGULATION 1969	134
4.2.2.2 THE ASSOCIATED GAS RE-INJECTION ACT 1979	135
4.2.2.3 THE FLARE GAS (PREVENTION OF WASTE AND POLLUTION) REGULATION 2018	136
4.2.2.4 ASSESSMENT OF THE PRECAUTIONARY PRINCIPLE	137
4.2.2.5 ASSESSMENT OF THE POLLUTER PAYS PRINCIPLE	139
4.2.2.6 KEY FINDINGS FROM THE ANALYSIS ON PRIMARY LEGISLATION	144
4.2.3 REGULATIONS INDIRECTLY REGULATING CLIMATE CHANGE	145
4.2.3.1 THE NATIONAL ENVIRONMENTAL STANDARD AND REGULATIONS ENFORCEMENT AGENCY (ESTABLISHMENT) ACT (NESREA)	146
4.2.3.2 THE NATIONAL ENVIRONMENTAL (SANITATION AND WASTES CONTROL) REGULATIONS,2009, AND NATIONAL ENVIRONMENTAL PROTECTION (EFFLUENT LIMITATION) REGULATIONS 1991... 147	
4.2.3.3 NATIONAL ENVIRONMENTAL (BASE METALS, IRON AND STEEL MANUFACTURING/RECYCLING INDUSTRIES SECTOR) REGULATIONS, 2011.....	151
4.2.3.4 KEY FINDINGS FROM THE ANALYSIS OF LAWS INDIRECTLY REGULATING CLIMATE CHANGE.....	152
4.3 THE ROLE OF THE EXECUTIVE AND CLIMATE CHANGE INTEGRATION.....	153
4.3.1 THE NATIONAL POLICY ON CLIMATE CHANGE (NPCC) 2013	154
4.3.2 ASSESSMENT OF NPCC AGAINST THE PRINCIPLES OF CLIMATE CHANGE	155
4.3.3 NIGERIA VISION 20:2020.....	157
4.3.4 NATIONAL ADAPTATION STRATEGY AND PLAN OF ACTION ON CLIMATE CHANGE FOR NIGERIA (NASPA-CCN).....	158
4.4 CONCLUSION.....	160

CHAPTER 5	163
THE ROLE OF ENERGY POLICIES AND PROGRAMMES IN ADDRESSING CLIMATE CHANGE IN NIGERIA	163
5.1 INTRODUCTION	163
5.2 RENEWABLE ENERGY (RE).....	166
5.3 KEY EXISTING POLICIES OF RE DEVELOPMENT IN NIGERIA.....	169
5.3.1 NATIONAL ENERGY POLICY (NEP)	170
5.3.2 ASSESSMENT OF NEP AGAINST THE NREOS	172
5.3.3 NATIONAL RENEWABLE ENERGY AND ENERGY EFFICIENCY POLICY (NREEEP).....	175
5.3.4 ASSESSMENT OF THE NREEEP AGAINST NREOS	176
5.3.5 THE NATIONAL BIO-FUEL POLICY (NBP).....	177
5.3.6 ASSESSMENT OF NBP AGAINST NREOS.....	178
5.3.7 RENEWABLE ENERGY MASTER PLAN (REMP)	178
5.3.8 ASSESSMENT OF REMP AGAINST NREOS.....	179
5.3.9 THE SUSTAINABLE ENERGY FOR ALL ACTION AGENDA (SE4ALL).....	180
5.4 KEY EXISTING POLICY ON ENERGY EFFICIENCY IN NIGERIA	181
5.5 ANALYSIS AND KEY FINDINGS OF THE ENERGY POLICIES	183
5.5.1 LACK OF LEGISLATIVE BACKING AND IMPLEMENTATION.....	183
5.5.2 MULTIPLICITY OF POLICIES AND TARGETS.....	185
5.5.3 THE NUMBER OF GASES COVERED BY THE POLICIES.....	186
5.5.4 LACK OF PROPER ANALYSIS.....	188
5.6 KEY RE PROGRAMMES AND PROJECTS IN NIGERIA	189
5.6.1 LARGE SCALE RE POWER PROJECTS	191
▪ FEDERAL MINISTRY OF POWER.....	191
▪ NIGERIA FEED IN TARIFF	192
5.6.2 SMALL SCALE RE PROJECTS.....	193
▪ FEDERAL MINISTRY OF POWER.....	193
▪ FEDERAL MINISTRY OF ENVIRONMENT	194
▪ RURAL ELECTRIFICATION AGENCY AND THE ENERGY COMMISSION OF NIGERIA.....	195
▪ INTERNATIONAL INTERVENTION PROGRAMME.....	196
5.7 KEY EE PROGRAMMES AND PROJECTS IN NIGERIA	197
5.8 KEY SDG 7 PROJECTS AND PROGRAMMES	198
5.9 ANALYSIS AND KEY FINDINGS OF THE RE PROJECTS.....	199
5.9.1 ONGRID PENETRATION OF RE IN NIGERIA.....	199
5.9.2 RE GENERATION IS CENTRALISED IN NIGERIA	202
5.9.3 LOW FUNDING OF RE DEVELOPMENT	203

5.10 FOSSIL FUEL SUBSIDY AND ITS IMPACT ON RE DEVELOPMENT.....	205
5.11 NIGERIA FOSSIL FUEL SUBSIDY PROGRAMME	207
5.12 GAS FLARING AND GHG EMISSIONS IN NIGERIA	211
5.12.1 THE EFFORT OF THE NIGERIAN GOVERNMENT TO PHASE OUT GAS FLARING	214
5.12.2 KEY PROJECTS FOR THE PHASING OUT OF GAS FLARING	216
5.13 THE ROLE OF CDM PROJECTS IN PHASING OUT GAS FLARING	218
5.14 ANALYSIS AND KEY FINDINGS OF THE CDM AND GAS UTILIZATION PROJECTS OF NIGERIA..	222
5.15 CONCLUSION.....	223
CHAPTER 6	226
THE ROLE OF FOREST RELATED POLICIES AND PROGRAMMES IN ADDRESSING CLIMATE CHANGE IN NIGERIA.....	226
6.1 INTRODUCTION.....	226
6.2 ASSESSMENT OF KEY FOREST RELATED LAWS AND POLICIES IN NIGERIA.....	232
6.2.1 THE NIGERIA FOREST POLICY 2006	234
6.2.1.1 ASSESSMENT OF HALTING DEFORESTATION	235
6.2.1.2 ASSESSMENT OF AFFORESTATION AND REFORESTATION.....	236
6.2.1.3 ASSESSMENT OF SUSTAINABLE FOREST MANAGEMENT (SFM)	237
6.2.1.4 GAPS IN THE FOREST POLICY	240
6.2.2 NATIONAL AGRICULTURAL RESILIENCE FRAMEWORK (NARF) 2015	242
6.2.2.1 ASSESSMENT OF NARF AGAINST NCCFROs.....	242
6.2.2.2 GAPS IN NARF.....	245
6.2.3 KEY ENERGY POLICIES	246
6.2.3.1 NREEP, NGP AND NEP ROLE IN ACHIEVING THE NCCFROS.....	247
6.2.3.2 THE USE OF LIQUEFIED PETROLEUM GAS (LPG)	249
6.2.4 ASSESSMENT OF LEGISLATION INDIRECTLY REGULATING CLIMATE CHANGE.....	251
6.2.4.1 THE MINERALS AND MINING ACT.....	252
6.2.4.2 THE ENVIRONMENTAL IMPACT ASSESSMENT ACT	253
6.2.4.3 NIGERIAN URBAN AND REGIONAL PLANNING ACT	255
6.2.4.4 KEY FINDING OF THE LAWS INDIRECTLY REGULATING CLIMATE CHANGE.....	256
6.3 ASSESSMENT OF THE FOREST RELATED PROGRAMMES AND PROJECTS	256
6.3.1 THE PRESIDENTIAL INITIATIVES ON AFFORESTATION PROGRAMME (2009).....	257
6.3.2 THE GREAT GREEN WALL	257
6.3.3 THE GREEN BOND PROJECT OF NIGERIA.....	260
6.3.4 ASSESSMENT OF THE PROGRAMMES	262
6.4 THE UN REDD+ PROGRAMME.....	264
6.4.1 THE EVOLUTION OF REDD+ PROGRAMME	264

6.4.2 THE NIGERIA REDD+ READINESS PROGRAMME	267
6.4.3 ASSESSMENT OF THE REDD+ READINESS PROGRAMME	269
6.5 KEY FINDINGS FROM THE LAWS, POLICIES AND PROGRAMMES.....	275
6.6 CONCLUSION.....	280
CHAPTER 7	283
THE ROLES OF THE EXISTING INSTITUTIONS IN IMPLEMENTING CLIMATE CHANGE OBLIGATIONS IN NIGERIA.....	283
7.1 INTRODUCTION.....	283
7.2 CLIMATE CHANGE INSTITUTIONS IN NIGERIA.....	284
7.2.1 THE ROLE OF THE FEDERAL MINISTRY OF ENVIRONMENT	285
7.2.2 THE DEPARTMENT OF CLIMATE CHANGE	286
7.2.3 THE ROLE OF THE DCC.....	287
7.2.3.1 ASSESSMENT OF DCC AGAINST REPORTING OBLIGATION	288
7.2.3.2 ASSESSMENT OF DCC’S ROLE TO PROMOTE CLIMATE CHANGE EDUCATION AND AWARENESS	294
7.2.3.3 THE DCC’S CAPACITY TO ACCESS FUND	298
7.2.3.3.1 THE NEED FOR CLIMATE CHANGE FINANCE	299
7.2.3.3.2 THE AVAILABLE CLIMATE FINANCES	300
7.2.3.4 ASSESSMENT OF THE DCC PERFORMANCE IN ACCESSING CLIMATE CHANGE FUNDS	303
7.2.3.4 .1 CLIMATE CHANGE FUNDING AND THE ROLE OF STRONG NATIONAL INSTITUTION	306
7.2.3.4 .2 STRONG NATIONAL PLAN.....	307
7.2.3.4 .3 SELECTING STRONG IMPLEMENTING ENTITIES	308
7.2.3.4 .5 ENGAGEMENT WITH STAKEHOLDERS.....	309
7.2.4 KEY FINDINGS.....	311
7.3 MDAs INDIRECTLY DEALING WITH CLIMATE CHANGE, AND COMMITTEE ON CLIMATE CHANGE	314
7.3.1 ROLE OF MINISTRIES, DEPARTMENTS AND AGENCIES	314
(i) The Federal Ministry of Power (FMP):.....	314
(ii) The Rural Electrification Agency:	315
(iii) The Office of Senior Special Assistant to The President on SDGs:.....	315
(iv) The Inter-ministerial committee on climate change:	316
7.3.2 COLLABORATION OF THE MDAs	317
7.3.3 COLLABORATION BETWEEN DCC AND OTHER MDAs	318
7.3.4 COLLABORATION AMONGST OTHER MDAs.....	318
7.3.5 COLLABORATION BETWEEN MDAs AND THE SDG OFFICE.....	319

7.3.4 KEY FINDINGS.....	322
7.4 CONCLUSION.....	323
CHAPTER 8.....	324
LEGAL AND NON-LEGAL REFORMS: SUGGESTIONS AND CHALLENGES.....	324
8.1 INTRODUCTION	324
8.1.1 SUMMARY OF THE IMPLEMENTATION OF NIGERIAN’S CLIMATE CHANGE OBLIGATIONS AND KEY SDGS.....	326
8.1.2 SUMMARY OF THE POOR RECORD OF IMPLEMENTATION OF CLIMATE CHANGE OBLIGATION	327
8.2 LEGAL REFORMS	329
8.2.1 UTILISE THE EXISTING POLICIES TO ALIGN CLIMATE CHANGE OBLIGATION, KEY SDGS, AND NIGERIA NDC LINKAGES	329
8.2.2 ENCOURAGE MDAs COLLABORATION TO IMPLEMENT CLIMATE CHANGE, SDGs, AND NIGERIA NDC LINKAGES	333
8.2.3 THE DCC TO IMPROVE CAPACITY AND PERIODICALLY REVIEW CLIMATE CHANGE POLICIES	335
8.2.3.1 REVIEW THE NATIONAL POLICY OF CLIMATE CHANGE (NPCC)	336
8.2.3.2 REVIEW THE NATIONAL ENERGY POLICY (NEP)	337
8.2.3.3 PERIODICAL REVIEW OF CLIMATE CHANGE POLICIES.....	337
8.2.4 PARLIAMENT TO UPDATE AND AMEND THE CLIMATE CHANGE ACT	338
8.2.5 IMPROVE THE PRODUCTION OF RENEWABLE ENERGY (RE).....	341
8.2.6 IMPROVEMENT OF THE FOREST AREAS AND REDUCTION OF EMISSIONS OF GHG	351
8.3 NON-LEGAL REFORMS	358
8.3.1 SUPPORT CLIMATE CHANGE EDUCATION AND AWARENESS PROGRAMMES.....	358
8.3.2 THE ROLE OF NON-STATE ACTORS AND CITIZENS IN CLIMATE CHANGE LITIGATION IN NIGERIA.....	362
8.4 OVERARCHING CHALLENGES	364
8.4.1 CORRUPTION AND BRIBERY	365
8.4.2. POLITICS AND ECONOMY	366
8.4.3 POVERTY AND CRIME.....	368
8.4.4 COVID 19 ON THE NIGERIA ECONOMY	369
8.5 CONCLUSION.....	369
CHAPTER 9	371
CONCLUSION	371
9.1 CHAPTER SUMMARIES AND FINDINGS	371
9.1.1 OBJECTIVE 1	371
9.2.2 OBJECTIVE 2	372

9.2.3 OBJECTIVE 3	373
9.2.4 OBJECTIVE 4	373
9.2.5 OBJECTIVE 5	375
9.2.6 OBJECTIVE 6	375
9.2.7 OBJECTIVE 7	377
9.2 FINAL CONCLUDING COMMENT	378
BIBLIOGRAPHY.....	379
International climate change instruments.....	379
UNGA resolutions and decisions on climate change	380
UK, EU, Canada, South Africa, Norway Climate change legislation.....	382
Nigeria climate change related Legislation	382
Canada, Costa Rica, UK, South Africa, climate change policies.....	384
Nigeria National climate change policies	384
Case Laws	385
Books	386
Journal Articles.	395
Climate change reports.....	429
Online media sources.....	435

LIST OF TABLES

LIST OF FIGURES.....	x
Table 2:1 National emissions for the year 2015 in Nigeria.....	46
Table 3.1 climate change obligation, key SDG, and Nigeria NDC synergies.	118
Table 5.1: The linkages between climate change regime, SDG 7 key targets and Nigeria NDC energy targets.....	165
Table 5.2: Summary of Renewable Electricity Targets of NREEEP.....	176
Table 5.3: Detailed information on mitigation policies in Nigeria.....	182
Table 6.1: The Linkages between CC regime, SDG 15 and NCCFROs.....	231

LIST OF FIGURES

Figure 2.1 IPCC 2018 graph showing the possibility of the temperature reaching 1.5°C if the current rate of warming continues.....	36
Figure 2.2. The State of Greenhouse gases in the atmosphere based on the global observations through 2017.	44
Figure 3.1 Nigeria’s Nationally Determined Contribution (NDC) Implementation.....	107
Figure 5.1: The New Ranking of Top 30 Flaring Countries (2013-2017).....	213

LIST OF ABBREVIATION

ACT	Act of Parliament
AFOLU	Agriculture, Forestry and Other Land Use
AGF	Attorney General of the Federation
BUR	Biennial Update Report
C4H	Methane
CBDR	Common but Differentiated Responsibilities
CDM	Clean Development Mechanism
CFRN	Constitution of Federal Republic of Nigeria 1999 as Amended
CO2	Carbon dioxide
COP	Conference of the Party
CRS	Cross Rivers State
CSA	Climate-smart agriculture
DCC	Department of Climate Change
DFID	Department for International Development
ECN	Energy Commission

EE	Energy Efficiency
EGP	Escravos gas-to-liquid Projects
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
FAO	Food and Agriculture Organisation
FME	Federal Ministry of Environment
FMP	Federal Ministry of Power
GDP	Gross Domestic Product
GGW	Great Green Wall
GHG	Green House Gases
HCFC	Hydrochlorofluorocarbons
HFC	Hydrofluorocarbons
INDC	Intended Nationally Determined Contribution
IPCC	Intergovernmental Panel on Climate Change
IPU	The Inter Parliamentary Union
Kyoto Protocol	Kyoto Protocol 1997
LDC	Least Developed Country
LPG	Liquefied Petroleum Gas
MDAs	Ministries, Departments and Agencies

MDGs	Millennium Development Goals
MOC	Multinational Oil Corporations
N ₂ O	Nitrous oxide
NAMA	Nationally Appropriate Mitigation Actions
NARF	National Agricultural Resilience Framework
NASPA-CCN Nigeria	National Adaptation Strategy and Plan of Action on Climate Change for Nigeria
NBP	National Bio-fuel Policy
NC	National Communication
NCCFROs	Nigeria Climate Change Forest Related Obligations
NCCIOs	Nigeria Climate change International Obligations
NDC	Nationally Determined Contribution
NEEDS	National Environmental, Economic and Development Study
NEMA	National Emergency Management Agency
NEP	National Energy Policy
NGFCP	Nigerian Gas Flare Commercialisation Programme
NGMP	Nigeria Gas Master Plan
NGO	Non-Government Organisation
NGP	National Gas Policy
Nigeria NDC	Nigeria Nationally Determined Contribution

NLNG	Nigeria Liquefied Natural Gas
NNPC	Nigeria National Petroleum Corporation
NPCC	National Policy on Climate Change
NREEEP	National Renewable Energy and Energy Efficiency Policy
NREOs	Nigeria Renewable Energy Obligations
NV20:2020	Nigeria Vision 20:2020
OECD	Organisation for Economic Co-operation and Development
PP	Precautionary Principle
PPP	Polluter Pays Principle
PTFP	Presidential Task Force on Power
RE	Renewable Energy
REA	Rural Electrification Agency
REAP	Renewable Electricity Action Programme
REDD	Reducing emissions from deforestation and forest degradation
REDD+	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
Regulation 2018	Flare Gas (Prevention of Waste and Pollution) Regulation 2018
REMP	Renewable Energy Master Plan
REMP	Renewable Energy Master Plan

REPG	Renewable Electricity Policy Guidelines
Rio declaration	Declaration of the United Nations Conference on Environment and Development 1992
SD	Sustainable development
SDGs	Sustainable Development Goals
SDM	Sustainable Development Mechanism
SEA4AL	Sustainable Energy for All Action Agenda
SF6	Sulphur hexafluoride
SFM	Sustainable Forest Management
SPDC	Shell Petroleum Development Corporation
TCO _{2e}	Carbon dioxide equivalent
UK	United Kingdom
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFCCC	United Nation Framework Convention on Climate Change
USA	United State of America
USAID	US Agency for International Development
WAGP	West African gas project
WHO	World Health Organization
WMO	World Meteorological Organization

CHAPTER 1

INTRODUCTION

1.2 RESEARCH QUESTION

The key question is whether the legal mechanisms (laws, policies, and institutions) in Nigeria are effective in responding to the consequences of climate change and achieve its climate change international obligations under the present climate change regime? To achieve this aim, the goal of this study is to critically analyse, and critique laws, policies and institutions set up either by the Parliament or initiated by the Executive branch of the Nigerian government with the aim of achieving Nigeria's International Climate Change Obligations (NICCOs).

1.2 BACKGROUND TO THE RESEARCH

The Intergovernmental Panel on Climate Change (IPCC)¹ states that the global temperature has increased over the last 100 years due to GHG emissions.² The increase of global temperature has adverse impacts; it causes the ice sheets and glaciers to shrink,³ which has increased the level of waters in the sea.⁴ The rising global temperature also causes drought,⁵ disrupting water supply and food production in some regions.⁶ These negative impacts of climate change are

¹IPCC is one of the leading intragovernmental organisations that provides concrete information about the science of climate change, see The Intergovernmental Panel on Climate Change (IPCC) available at < <http://www.ipcc.ch/search/index.shtml> > accessed 12 November 2018.

²J Houghton and J Ephraums, *Climate Change*, Intergovernmental Panel on Climate Change (The IPCC scientific assessment, Mass, Cambridge 1990); J Ralph, Cicerone and Paul Nurse *Climate Change Evidence & Causes*; An overview from the Royal Society and the US National Academy of Sciences (Q and A).

³K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability*. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 4.

⁴ Ibid; Greenpeace, 'Droughts, cyclones, floods and other extreme weather (Greenpeace 2016)' available at > <http://www.greenpeace.org/international/en/campaigns/climate-change/impacts/Extreme-weather/>> accessed 10 October 2017.

⁵K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability*. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 6.

⁶ Such as Africa, See C Mbow and 2019: *Food Security*. In: *Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems* (eds 2019) In press at 465.

global, and it affects all nations.⁷ Even though the impacts of climate change are global, research has shown that the impacts of climate change affect developing countries more than developed countries.⁸ This is because developing countries face different challenges such as lack of infrastructure to adapt to climate change, high poverty levels, and high reliance on climate-sensitive sectors like forestry, the practice of rainfed agriculture, and many others.⁹ Nigeria, like most developing countries, is vulnerable to the adverse impacts of climate change.¹⁰ This is because Nigeria lacks the technology to adapt to climate change, and most farmers still practice rainfed agriculture.¹¹

⁷Hoegh-Guldberg, and John F. Bruno, 'The impact of climate change on the world's marine ecosystems' (2010) 328 (5985) *Science* 1523-1528. T Stocker and P Midgley, *Climate Change 2013: Summary for Policymakers*. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* 1-38; R Pachauri and A Reisinger, *Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, Geneva, Switzerland)* 4-5; C Mgbemene and C Nwozor, 'Industrialization and its backlash: focus on climate change and its consequences (2016) 9 *J. Environ. Sci. Technol.* 301-316; United State Environmental Protection Agency, 'Causes of climate change' > <https://19january2017snapshot.epa.gov/climate-change-science/causes-climate-change.html> > Accessed 2 December 2017; R Lindzen, 'Global warming: The origin and nature of the alleged scientific consensus' (1992) 15 *Regulation* 87.

⁸R.T Zinyowera and R H Moss, *The regional impacts of climate change: an assessment of vulnerability* (eds Cambridge University Press 1998) 88-87; U Etiosa, 'The Changing Climate and the Niger Delta' (2016) *Community Research and Development Centre (CREDC), Nigeria*; C B Field and V R Barros, *Climate change 2014: impacts, adaptation, and vulnerability (Vol. 1)*. (Cambridge and New York: Cambridge University Press 2014) 10.

⁹ A P Panel, *Power people planet: seizing Africa's energy and climate opportunities: Africa progress report 2015* at 20; C B Field and V R Barros, *Climate change 2014: impacts, adaptation, and vulnerability (Vol. 1)*. (Cambridge and New York: Cambridge University Press 2014) 10.

¹⁰This includes but not limited to the environment, social activities agricultural production and many more see Y Abdulhamid, 'The Impact of climate change in Nigeria' (2011) 2(4) *Computer Engineering and Intelligent Systems* 18-26; P Akpodigoga and O Ovuyovwiroye, 'General overview of Climate change impacts in Nigeria' (2010) 29(1) *Journal of Human Ecology* 47-55 at 50; V.A Solomon and O.D Akpan 'Impacts of Climate Variability on Wetland and Fishing Households in the Niger Delta Region, Nigeria' (2015) 7(3) *Asian Journal of Agricultural Extension, Economics & Sociology* 1-9 ; Uyigue and M Agho, 'Coping with Climate change and environmental degradation in the Niger Delta of southern Nigeria' (2007) *Community Research and Development Centre Nigeria (CREDC)* 24-27; Federal Ministry of Environment, *Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014)* 9 ; N Ebele and N Emodi, 'Climate change and its impact in Nigerian economy (2016) 10(6) *Journal of Scientific Research & Reports* 1-13; V E Lekwot and M K Balasom, 'Climate Change and Its Effect on National Security in Nigeria' (2014) 2 (4) *International Journal of Interdisciplinary Research and Innovations* 6-10; G Odogwu, 'Climate change and Fulani herdsmen-farmers' clashes (Punch Newspaper 2018) > <http://punchng.com/climate-change-and-fulani-herdsmen-farmers-clashes/> > Accessed 12 March 2018; M Ladan, 'Human Rights and Security Impacts of Climate Change and the African Climate Action Strategy' (2015) *papers.ssrn.com* 4, 12-18.

¹¹ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment pages 4 and 5

To deal with the impacts of climate change and reduce the emissions of greenhouse gases (GHGs), both developed and developing countries have a role to play at the national level.¹² In order to make this happen, the United Nations Framework Convention on Climate Change (UNFCCC) was adopted in 1992, which entered into force in 1994.¹³ Aside from the UNFCCC, the Kyoto Protocol to the UNFCCC was adopted in 1997,¹⁴ followed by the Paris Agreement in 2015—which aims to strengthen the global response to the threat of climate change by keeping global temperature rise to below 2 degrees Celsius, if possible to 1.5 degree Celsius above pre-industrial levels.¹⁵ As a member of the UNFCCC, Nigeria has signed and ratified the UNFCCC, the Kyoto Protocol, and the Paris Agreement.¹⁶ All these climate change agreements impose International Climate Change Obligations on member nations such as reducing emission in the forest sector,¹⁷ developing and improving renewable energy,¹⁸ initiating climate change education and awareness,¹⁹ reporting climate change activities,²⁰ and incorporating climate change laws into domestic laws and policies.²¹

In addition to these obligations, the Nationally Determined Contributions (NDCs), which is the heart of the Paris Agreement to achieve the objectives of the climate change regime, allows

¹²IPCC, *Climate change, the IPCC scientific assessment* (Mass, Cambridge 1990) 13.

¹³ UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

¹⁴UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

¹⁵ UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 [accessed 19 November 2018].

¹⁶ See Chapter Three.

¹⁷ Article 4 (1) c of UNFCCC, Article 2 (1) (a) ii Kyoto Protocol.

¹⁸ Article 2 (1) I the Kyoto Protocol.

¹⁹ Article 6 of the UNFCCC has reflected in Article 10 (e) of the Kyoto Protocol and Article 12 of the Paris Agreement.

²⁰ Articles 4 and 12 UNFCCC and Article 13 (7) of the Paris Agreement.

²¹ Article 4 (1) (f), Article 4(2) (a) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018]; and Article 6 (1) of the Paris Agreement UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

Parties, that is, both developed and developing countries, to make voluntary pledges.²² NDCs are a country-specific pledge to reduce carbon emissions, thereby contributing to the net global carbon emission index to reduce global warming.²³ Nigeria is one of the developing countries that pledged to reduce its emission level by 45% in 2030.²⁴ To achieve 45%, the Nigerian government committed to working towards ending gas flaring by 2030; work towards off-grid solar PV of 13GW (13,000MW); efficient gas generators; 2% per year energy efficiency (30% by 2030); transport shift car to bus; improve electricity grid; climate-smart agriculture and reforestation which are meant to achieve by 2030.²⁵

The climate change obligations highlighted above²⁶ and the Nigeria NDC commitments²⁷ are related to key Sustainable Development Goals (SDGs), particularly SDG 7: improve reliable and sustainable energy and SDG 15: protection, restoration, and promotion of sustainable use of the forest.²⁸ The SDGs are part of the 2030 agenda for Sustainable Development which the Nigerian government pledged to deliver in 2030.²⁹ The relationship between the climate change obligations, the Nigeria NDC, and key SDGs create an opportunity at the national level to implement key SDGs that are aligned with climate change obligations and the Nigeria NDC.

²² See Article 4 UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

²³ F-Z Taibi and S Konrad, Pocket Guide to NDCs under the UNFCCC (ecbi 2018) 1-2.

²⁴Federal Ministry of Environment, Abuja, 'Nigeria's Intended Nationally Determined Contribution, Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate Change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate Change coming up in December 2015.

²⁵Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.2-3 and 14.

²⁶Such as, reduction of emissions in the forest sector, develop and improve renewable energy, initiate climate change education and awareness, report climate change activities, incorporate climate change laws into domestic laws and policies.

²⁷Such as ending gas flaring by 2030; work towards off-grid solar PV of 13GW (13,000MW); efficient gas generators; 2% per year energy efficiency (30% by 2030); transport shift car to bus; improve electricity grid and climate-smart agriculture and reforestation.

²⁸ UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018].

²⁹ UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018].

This means the achievement of the climate change obligations could lead to the achievement of related SDGs and the Nigeria NDC.

To achieve its climate change obligations, Nigeria NDCs targets, and the key SDGs at the domestic level, the Nigerian government must implement the existing relevant climate change-related laws, regulations, and policies or create new ones that will integrate these obligations NDC targets and key related SDGs. Again, the Nigerian government must also use the existing climate change-related institutions or create new ones to implement the laws, regulations, and policies to achieve climate change obligations, Nigeria NDC targets, and key similar SDGs.

The question is, how will the Nigerian government achieve its NCCIOs? Does the Nigerian government have robust climate change legal mechanisms in place at the domestic level? Do the laws, regulations, and policies reflect and capture the present NCCIOs under the climate change regime? Are the existing climate change-related institutions capable of implementing the laws at the national level? Therefore, the primary purpose of this thesis is to critically analyse the legal mechanisms of Nigeria whether they can address the negative impacts of climate change and achieve the NCCIOs in the coming years.

1.3 A BRIEF BACKGROUND OF NIGERIA

Nigeria is blessed with mineral resources.³⁰ The southern part of the country has vast deposits of crude oil and gas, which provide the country's mainstay.³¹ Oil and gas produced in the southern part of the country provide 80 per cent of budget revenues and 95 percent of foreign

³⁰J Gyang and G Chollom, 'An overview of mineral resources development in Nigeria: Problems and prospects' (2010) (1)1 Continental journal of sustainable development 23-31.

³¹ Environmental Assessment of Ogoniland' (United Nation Environmental Programme 2011) 14<<http://www.unep.org/>> accessed 12 December 2018.

exchange earnings to the Nigerian government.³² The growth of the oil and the gas industry in the country has contributed largely to GHG emissions..³³ Nigeria flares about ‘23 billion cubic meters per annum of the gas generated.’³⁴ This is more than all African countries put together.³⁵ Aside from oil and gas, traditional biomass such as wood and charcoal account for 74% of energy consumption.³⁶ The extraction of wood has caused drastic depletion of the forest sector, one of the causes of GHG emissions.³⁷ The current depletion and emission will be further exacerbated due to an increase in population.³⁸ Nigeria’s population is approximately 202 million.³⁹ This is projected to double in 24 years.⁴⁰

Nigeria is said to have a big economy in Africa, which has made her one of the leading countries in Africa.⁴¹ However, despite her economy, Nigeria is adjudged as one of the poorest

³²Ibid

³³ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 20-40.

³⁴ E T Aniche, ‘Nigeria and World Bank Global Gas Flaring Reduction (GGFR) Partnership: The Tragedy of the Commons (2015) 4.

³⁵M Ishisone, ‘Gas flaring in the Niger Delta: The potential benefits of its reduction on the local economy and environment’ (2004) Retrieved on December 10, 13.

³⁶ Energy Information Administration (EIA), Country Analysis Brief: Nigeria , 2016 at 5 , <https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf accessed 20 December 2019; National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria <<http://admin.theiguide.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

³⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 32 ; United State Environmental Protection Agency, ‘Causes of climate change’> <https://19january2017snapshot.epa.gov/climate-change-science/causes-climate-change.html>> Accessed 2 December 2017.

³⁸ the size of the population affects the rate of GHG emissions see C Sulaiman and A S Abdul-Rahim, ‘Population Growth and CO2 Emission in Nigeria: A Recursive ARDL Approach’ SAGE (2018) 8(2) SAGE 1-14 at 1

³⁹ The World Bank, Overview of Nigeria available at < <https://www.worldbank.org/en/country/nigeria/overview> > Accessed 22nd March 2020.

⁴⁰ Nigeria estimated emissions per capita is around 2 tonnes CO₂e see Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 17 and 18; Federal Ministry of Environment, Nigeria’s Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 20; Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 20-40.

⁴¹Nigeria remains Africa’s Biggest Economy – IMF (Vanguard Newspaper October 2016)> <https://www.vanguardngr.com/2016/10/nigeria-remains-africas-biggest-economy-imf/>> accessed April 2, 2018

countries in the world.⁴² Significant challenges in the country include food insecurity, unemployment, poor access to energy, and many more.⁴³ Based on this, a large number of the Nigerian population are living below the poverty line.⁴⁴ It is important to note that the country's poor state was attributed to poor governance and corruption which have received significant attention from academics around the world.⁴⁵ Beyond this, one of the salient dangers that may aggravate poverty and hunger in the country is climate change. This truth was pointed out by the fifth report of IPCC that the impact of climate change will increase poverty and inequality in developing nations.⁴⁶ This is also the position of the Federal Ministry of Environment of Nigeria (FME). According to the FME, climate change has led to the loss of biodiversity and general environmental degradation in Nigeria.⁴⁷

Nigeria, the study area of this research, is significant because Nigeria is arguably referred to as the giant of Africa.⁴⁸ This is because of its commitment to the affairs of the African continent.⁴⁹ At the regional level, Nigeria has shown her commitment to instil peace and stability in most unsettled African countries,⁵⁰ especially the financial aid and human capital support Nigeria

⁴² 'Nigeria overtakes India as world's poverty capital — Report' (Vanguard Newspaper June 2018) available at <https://www.vanguardngr.com/2018/06/nigeria-overtakes-india-as-worlds-poverty-capital-report/Federal> >accessed 22nd June 2018; Ministry of Environment Nigeria (Great Green Wall for The Sahara And Sahel Initiative (2012) National Strategic Action Plan 16.

; Federal Ministry of Environment, Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 20.

⁴³ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. At 1

⁴⁴ 'The world bank in Nigeria' Nigeria Overview > <http://www.worldbank.org/en/country/nigeria/overview> > Accessed April 2, 2018.

⁴⁵ D E Agbibo, 'Between corruption and development: The political economy of state robbery in Nigeria' (2012) 108(3) Journal of Business Ethics 325-345.

⁴⁶ K Mach and M. Mastrandrea, Climate change 2014: impacts, adaptation, and vulnerability. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 20.

⁴⁷ Federal Ministry of Environment Nigeria (Great Green Wall for The Sahara and Sahel Initiative (2012) National Strategic Action Plan 16.

⁴⁸ A Simpson and B A Oyètádé, 'Nigeria: Ethno-linguistic competition in the giant of Africa' 2008 Language and national identity in Africa 172-198.

⁴⁹ See C F Chigozie and O S Ituma, 'Nigerian Peacekeeping Operations Revisited' 2015 (4)2 Singaporean Journal of Business Economics, And Management Studies 1-10.

⁵⁰ Ibid.

offers to other African countries.⁵¹ By showing a serious commitment to the fight against climate change by fulfilling the NCCIOs, Nigeria may encourage other smaller countries in the continent to fight the impacts of climate change as well as fulfilment climate change commitments made at the international level. Due to these factors, Nigeria is chosen as a case study of this research.

1.4 REVIEW OF EXISTING LITERATURE AND GAPS

This segment reviews the prevailing literature on climate change. Section 1.4.1 focuses on the government official documents published concerning climate change in Nigeria. Section 1.4.2 reviews secondary documents relating to global control of GHG emissions. Section 1.4.3 evaluates nonlegal publications in relation to climate change in Nigeria, while section 1.4.4 concentrates on prevailing legal journal articles relating to climate change in Nigeria. Finally, section 1.4.5 highlights the gaps in the existing literature.

1.4.1 OFFICIAL DOCUMENTS GUIDING CLIMATE CHANGE IN NIGERIA

Three important documents released by the Nigerian government provide information on climate change activities in relation to Nigeria. First, ‘The Biennial Update Report’ (BUR) of the Federal Republic of Nigeria under the UNFCCC contains about 180 pages.⁵² Second is the ‘National Environmental, Economic and Development Study’ (NEEDS) which contains about

⁵¹ S Umezurike and A Umezurike, ‘Re-examining Nigeria’s Contributions to the African Union and the Domestic Socio-Economic Ramifications 2017 (9) 1 Journal of Economics and Behavioral Studies 17-26 ; ‘Nigeria deploys 500 Technical Aid Corps volunteers in Sierra Leone — Envoy’ available <https://www.premiumtimesng.com/news/more-news/264012-nigeria-deploys-500-technical-aid-corps-volunteers-in-sierra-leone-envoy.html> > accessed 5 December 2018

⁵² Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC).

30 pages.⁵³ Third is the National Communication (NC).⁵⁴ The NCs are individual country's reports showing mitigation and adaptation efforts on the impact of climate change. Non-Annex I Parties under the UNFCCC, mostly developing countries are required to submit their first NC within three years of entering the UNFCCC. The Nigerian government had prepared three NCs, one in 2003,⁵⁵ the second in 2014,⁵⁶ and the third in 2020.⁵⁷ These documents ranging from BUR, NEEDS, and NCs, highlighted the Nigerian government's climate change activities at the national level. However, they only contain activities of the Nigerian government's response to climate change with no legal analysis whatsoever.⁵⁸ Regardless of the lack of legal analysis, these documents contain vital data and general information on the climate change activities of the Nigerian government.

There are few policy documents published by the Nigerian government which deals with the development of Renewable Energy. For instance, the National Energy Policy 2018,⁵⁹ National Renewable Energy and Energy Efficiency Policy 2015,⁶⁰ Sustainable Energy for All Action Agenda 2016,⁶¹ and Bio-fuel policy 2007.⁶² These documents provide general information

⁵³ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) 'National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria. 20-40.

⁵⁴ Federal Republic of Nigeria (2003) Nigeria's Second National Communication Under the United Nations Framework Convention on Climate change (UNFCCC).

⁵⁵ Federal Republic of Nigeria (2003) Nigeria's Second National Communication Under the United Nations Framework Convention on Climate change (UNFCCC).

⁵⁶ Federal Republic of Nigeria (2014) Nigeria's Second National Communication Under the United Nations Framework Convention on Climate change (UNFCCC).

⁵⁷ Federal Republic of Nigeria (2020) Third National Communication (TNC) of the Federal Republic of Nigeria Under the United Nations Framework Convention on Climate change (UNFCCC).

⁵⁸ M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the 2015 Global Climate Legislation Study A Review of Climate Change Legislation in 99 Countries.

⁵⁹ Federal Republic of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission of Nigeria 2018) < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019.

⁶⁰ National Renewable Energy and Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria < <http://admin.theguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

⁶¹ Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

⁶² Federal Republic of Nigeria Official Gazette of the Nigerian Bio-fuel Policy and Incentives > <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/1517.pdf> > accessed 1st January 2019.

regarding renewable energy sources in Nigeria. These policies indirectly reflect the NCCIOs, but the goals of these policies are not as ambitious as the NCCIOs. For instance, the solar renewable energy target for the National Renewable Energy and Energy Efficiency Policy by 2030 is 6,830,⁹⁷ while that of the Nigeria NDC is 13,0000.⁶³ In relation to the forest sector, a national Forestry Policy 2006 released by the Federal Ministry of Environment deals with enhancement of the forest sector to remove GHG from the atmosphere.⁶⁴ This policy is a plan to increase the total area under sustainable forest management to about 25% of Nigeria's land area.⁶⁵ The problem with this document is that it did not explain how the 25% target would be achieved.

In a nutshell, the official documents ranging from BUR, NEEDS, NCs, national forestry policy, and the renewable energy policies contain information relating to climate change activities in Nigeria. However, there is a need to scrutinise these policies to review their weaknesses, strengths, or implementation levels. There is also a need to analyse whether these policies could help the Nigerian government to achieve the NCCIOs in the coming years.

1.4.2 SECONDARY DOCUMENTS: LITERATURE RELATING TO THE GLOBAL CONTROL OF GHG

Most of the literature on climate change and the law based their discourse on international law and the efforts to regulate the global atmosphere and control emissions of GHG. Key literature on this aspect is the edited collection of Churchill and Freestone,⁶⁶ the collection of

⁶³Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.2-3 and 14

⁶⁴Federal Ministry of Environment Nigeria (National Forest Policy, 2006) 26; B.A. Usman and L L Adefalu, 'Nigerian forestry, wildlife and protected areas' (2010) 11(3-4) Status report. Biodiversity.

⁶⁵Federal Ministry of Environment Nigeria (National Forest Policy, 2006) 26; B.A. Usman and L L Adefalu, 'Nigerian forestry, wildlife and protected areas' (2010) 11(3-4) Status report. Biodiversity 54-62.; E O Oriola, 'Forestry for sustainable development in Nigeria' (2009) International Journal of African studies 11-16.

⁶⁶ R Churchill and D Freestone, International law, and global climate change (ed 1991) 21.

Lautenbacher and Sprinz,⁶⁷ the collection of Schram Stokke,⁶⁸ the analysis of Yamin and Depledge,⁶⁹ Daniel Klein⁷⁰ and Michele Stua⁷¹ which centred on global efforts to combat climate change and the enforcement and compliance issues of the Kyoto Protocol and Paris Agreement. These authors underscore that climate change is a global issue, and the fight against the consequences of climate change must be global. These publications do not discuss domestic legislation, though they highlight the scope of international legal obligations created by the climate change treaties.

Some literature that discussed developing countries' roles in regulating GHG emissions based their discourse on climate justice and equity.⁷² That is the distribution of the burden of GHG emissions between developed and developing countries. Academics such as Sari,⁷³ Jotzo⁷⁴ expanded the issue of climate justice and equity. Climate justice and equity are about the distribution of the burden of climate change.⁷⁵ The focus is on developing countries such as China⁷⁶ to take on binding emission targets under the climate change regime due to the large emissions of GHG.⁷⁷ Also, some recent publications dealing with developing countries under

⁶⁷ U Luterbacher and D Sprinz, *International relations and global climate change* (ed 2001 MIT Press)

⁶⁸ O Stokke, *Implementing the climate regime: international compliance* (2013 Routledge).

⁶⁹ F Yamin and J Depledge, *The international climate change regime: a guide to rules, institutions, and procedures*. (2004 Cambridge University Press).

⁷⁰ D Klein, *The Paris Agreement on Climate Change: Analysis and Commentary* (ed 2017 Oxford University Press).

⁷¹ M Stua, *From the Paris Agreement to a Low-Carbon Bretton Woods; Rationale for the Establishment of a Mitigation Alliance* (2017 Springer).

⁷² P Shukla, 'Justice, equity and efficiency in climate change: a developing country perspective (1999) *Fairweather*, 145-159.

⁷³ A Sari, *Developing Country Participation: The Kyoto-Marrakech Politics* (2005) Hamburg Institute of International Economics (HWWA) Discussion Paper 333 > <https://ideas.repec.org/p/zbw/hwwadp/26302.html>> accessed 18 December 2018.

⁷⁴ F Jotzo, 'Developing countries and the future of the Kyoto Protocol (2005) 17(1) *Global Change, Peace & Security* 77-86.

⁷⁵ L Ringius and A Underdal, 'Burden sharing and fairness principles in international climate policy (2002) 2(1) *International Environmental Agreements* 1-22.

⁷⁶ M Bortscheller, 'Equitable but ineffective: How the principle of common but differentiated responsibilities hobbles the global fight against climate change (2009) 10 *Sustainable Dev. L. & Pol'y* 49.

⁷⁷ A Li, 'Hopes of Limiting Global Warming? China and the Paris Agreement on Climate Change. *China Perspectives*, 2016(2016/1), 49-54.

the climate change regime are that of Grunbaun⁷⁸ Leal-Arcas⁷⁹ and Falkner,⁸⁰ which has to do with the bottom-top approach of the Paris Agreement. These publications centred their argument on the Paris Agreement promoting emission targets for developing countries. The major aim of these publications is to justify the Paris Agreement, which set targets for both developing and developed countries.

Few publications were found in relation to climate change action—SDG 13 and its relationship to climate change.⁸¹ Though, not much has been written concerning SDG 13 and the Paris Agreement on the standards created by these international instruments at the national level. However, Shamin and Kibugi⁸² and Le Blanc⁸³ acknowledged that SDG 13 is reflected on a few binding climate change agreements such as UNFCCC, Kyoto Protocol, and Paris Agreement.⁸⁴ These articles give a wider explanation of SDG 13, that is, how SDG 13 can be achieved through other climate change agreements by enforcing the Kyoto Protocol. These publications fail to acknowledge the linkages between climate change obligations, the NDCs, and key SDGs, which create opportunities for the national government to prioritise key areas of need to focus and implement. Again, these publications do not deal directly with the Nigeria

⁷⁸ L. Grunbaum, 'From Kyoto to Paris: How Bottom-Up Regulation Could Revitalize the UNFCCC (2015) *Stanford Environmental Law Journal* (SELJ).

⁷⁹R Leal-Arcas, *Top-down and Bottom-up Approaches in Climate Change and International Trade* (Edward Elgar Publishing 2013) 291-359.

⁸⁰R Falkner, 'The Paris Agreement and the new logic of international climate politics. *International Affairs* (2016) 92(5) 1107-1125.

⁸¹ K. Shamin and R Kibugi, 'Brief on Sustainable Development Goal 13 on Taking Action on Climate Change and Its Impacts: Contributions of International Law, Policy and Governance' (2017) 13 *McGill J. Sust. Dev. L* 183; D Le Blanc, 'Towards integration at last? The sustainable development goals as a network of targets' (2015) 23(3) *Sustainable Development* 176-187.

⁸²K. Shamin and R Kibugi, 'Brief on Sustainable Development Goal 13 on Taking Action on Climate Change and Its Impacts: Contributions of International Law, Policy and Governance' (2017) 13 *McGill J. Sust. Dev. L* 183.

⁸³ D Le Blanc, 'Towards integration at last? The sustainable development goals as a network of targets' (2015) 23(3) *Sustainable Development* 176-187; A Stevance and D McCollum, 'A guide to SDG interactions: from science to implementation (2017) *International Council for Science, Paris*; R S Rodriguez and D Üрге-Vorsatz, 'Sustainable Development Goals and climate change adaptation in cities (2018) 8(3) *Nature Climate Change* 181.; J Tosun and J Leininger, 'Governing the interlinkages between the sustainable development goals: Approaches to attain policy integration (2017) 1(9) *Global Challenges* 1700036.

⁸⁴K Shamin and R Kibugi, 'Brief on Sustainable Development Goal 13 on Taking Action on Climate Change and Its Impacts: Contributions of International Law, Policy and Governance' (2017) 13 *McGill J. Sust. Dev. L* 183.

situation. However, they offer analysis on the link between SDG13 and the binding obligations under the climate change regime: the UNFCCC, Kyoto Protocol, and the Paris Agreement, which will be relevant in Nigeria's legal responses to its climate change international obligations.

From the discussion above, the focus of the academics in the present climate change regime first is to assess the effectiveness of global efforts to regulate GHG emissions under the UNFCCC, the Kyoto protocol.⁸⁵ Second, the fair distribution of the burden of climate change obligations between the developed and developing countries.⁸⁶ In this research, the researcher intends to shift the discourse to Nigeria, a developing country, focusing on the laws and policies formulated domestically to combat the consequences of climate change to fulfil the NCCIOs. In that context, the above literature review helps to understand better the scope of the international commitments and the distribution of burdens within the climate change regime.

1.4.3 EXISTING LITERATURE ON CLIMATE CHANGE RELATING TO NIGERIA

A review of the existing literature on climate change relating to Nigeria reveals that most of the existing literature is written by scientists or academics who based their research on geography and regional planning with little or no legal analysis, particularly on the NCCIOs.⁸⁷ Most of the publications do not consider whether or not the existing legal mechanisms in

⁸⁵ R Churchill (n-64).

⁸⁶ A Sari (n-73).

⁸⁷ See R Cervigni and M Santini M. eds., 2013. *Toward climate-resilient development in Nigeria* (World Bank Publications 2013) 49-55; V Mereu, V and D Spano, 2015. 'Impact of climate change on staple food crop production in Nigeria' (2015) 132 (2) *Climatic change* 321-336; M Santini and R Cervigni, 'Climate projection ensemble as support to water management and irrigation in Nigeria' (2013) 4(3) *Journal of Water and Climate Change* 287-301; NI Medugu, 'Climate Change: A Threat to Nigeria (2009) <http://environmentalsynergy.wordpress.com/2009/08/14/climate-change-a-threat-to-Nigeria/>. Accessed on, 19 June 2018; T G Apata and A O Adeola, 'Analysis of climate change perception and adaptation among arable food crop farmers in Southwestern Nigeria. In *International Association of Agricultural Economists*' (2009) Conference, Beijing, China 16-22.

Nigeria effectively implement and fulfil its international obligations under the climate change regime. Most of the literature on climate change focused on providing general climate change information, particularly on the impacts of climate change in Nigeria and predicting future adverse impacts of climate change,⁸⁸ which the Intergovernmental Panel on Climate Change (IPCC) had already highlighted in its first to sixth reports.

Some of the literature found in the course of the research is the publication accredited to Uyigüe and Agho, who wrote that climate change caused coastal erosion in the Niger Delta area of Nigeria.⁸⁹ Akpodiogaga and Odjugo made a detailed analysis of the figures published by Nigerian meteorologists that there is an increase in the temperature and decrease in rainfall in Nigeria as a result of climate change.⁹⁰ Ikehi and Zimoghen concluded that climate change has impacted fishing activities in the Niger Delta area of Nigeria and that the fishes migrate due to pollution. This forced fishers to travel long distances in order to catch fish.⁹¹ Efe investigated the impacts of climate change in Port-Harcourt (a city in Nigeria) in the period 1950-2015.⁹² He concluded that the impact of climate change had affected food prices.⁹³ Solomon and Akpan,⁹⁴ in their article titled 'Impacts of Climate Variability on Wetland and Fishing

⁸⁸ See e.g., R.T Zinyowera and R H Moss, *The regional impacts of climate change: an assessment of vulnerability* (eds Cambridge University Press 1998) 88-87; U Etiosa, 'The Changing Climate and the Niger Delta' (2016) Community Research and Development Centre (CREDC), Nigeria.

⁸⁹ E.Uyigüe and M Agho, 'Coping with climate change and environmental degradation in the Niger Delta of southern Nigeria' (2007) Community Research and Development Centre Nigeria (CREDC).24-27also available on: <http://www.global-greenhouse-warming.com/climate-change-in-Niger-Delta.html>> accessed 07 October 2017.

⁹⁰Peter Akpodiogaga and Odjugo Ovuyovwiroye, 'General overview of climate change impacts in Nigeria' (2010) 29(1) *Journal of Human Ecology* 47-55.

⁹¹ M.E.Ikehi and J Zimoghen, 'Impacts of climate change on fishing and fish farming in Niger Delta Region of Nigeria' (2015) 3z(1) *Direct Res. J. Agric. Food Sci.*1-6.

⁹² S.I Efe and V.E Weli, 'Economic impact of climate change in Port Harcourt, Nigeria' (2015) 3(03) *Open Journal of Social Sciences* 57; The authors concluded that there is an increase in the temperature and increase in rainfall which affects the price of goods in the city of Port-Harcourt.

⁹³Ibid.

⁹⁴V.A Solomon and O.D Akpan 'Impacts of Climate Variability on Wetland and Fishing Households in the Niger Delta Region, Nigeria' (2015) 7(3) *Asian Journal of Agriculture* 1-9.

Households in the Niger Delta Region Nigeria.’ This work generally discussed the impacts of climate change on farming, health, and the Nigerian economy.⁹⁵

The major aim of the published literature referred above is to inform⁹⁶ or predict the already known dangers climate change poses to Nigeria rather than the legal mechanism Nigeria needs to put in place under its climate change international obligations for the purpose of achieving the targets of climate change. There is no substantial in-depth research undertaken to analyse the effectiveness of the legal mechanisms available to Nigeria in order to achieve its climate change international obligations. Even the few legal textbooks and few journal articles are primarily focusing on general environmental issues or the oil and gas industry in the Niger Delta area of Nigeria.⁹⁷ There is no comprehensive published text with an in-depth analysis of Nigeria’s legal responses to the consequences of climate change with the aim of achieving the NCCIO in the nearest future.

1.4.4 EXISTING LITERATURE ON LAW AND CLIMATE CHANGE IN NIGERIA

Most legal textbooks relating to Nigeria generally discuss environmental issues, and only a part of a chapter is dedicated to climate change actions. Most of the legal textbooks only mention UNFCCC and fail to discuss the influx of issues such as SDG 13, Paris Agreement, and developing countries obligations on these instruments, especially legal mechanisms available

⁹⁵Ibid 5-9.

⁹⁶ T.C Nzeadibe and V.C Agu ‘Climate change awareness and adaptation in the Niger Delta Region of Nigeria’ (2011) African Technology Policy Studies Network, Nairobi; Nzeadibe and Egbule in this article discussed the little awareness of climate change by farmers in the Niger.

⁹⁷ L A Atsegbua and F Dimowo, Environmental law in Nigeria: Theory and practice (Ababa Press 2004); LA Atsegbua, Nigerian Petroleum Law: The Acquisition of Oil Rights in Nigeria. (Renstine Nigeria Publishers 1993); J Effiong, ‘Oil and gas industry in Nigeria: The paradox of the black gold In Environment and social justice: An international perspective (Emerald Group Publishing Limited 2010).323-346; T I Vaaland and R A Owusu, ‘Local content and struggling suppliers: A network analysis of Nigerian oil and gas industry (2012) 6 (15) African Journal of Business Management, 6(15) 5399-5413.

to the Nigerian government to fulfil its obligation under these instruments. Some of the environmental law studies published from the period of 1990 to date, like the fundamental publications of Ikoni,⁹⁸ Fagbohun,⁹⁹ and Ladan¹⁰⁰ provide a brilliant introduction to Environmental Law and Practice in Nigeria. The authors of these publications explore some essential environmental issues in Nigeria like pollution, governance, access to justice, and historical development of environmental law and policy. Lawrence and Vincent,¹⁰¹ who wrote on environmental law in Nigeria in 2004, generally provide information on environmental practices in Nigeria. One of the areas the authors focused on is the challenges facing enforcement of environmental law in Nigeria like government interest, corruption, lack of accurate data, lack of qualified staff, and many others. The authors went further and discussed UNFCCC with no in-depth legal analysis. All that was discussed relating to the UNFCCC by the authors was the historical development of the convention.¹⁰² The authors did not mention developing countries' obligations under the convention, let alone legal mechanisms available to Nigeria to fulfil its climate change international obligations.¹⁰³ In the same vein, Damilola Olawuyi, in his text, provides the principles of Nigerian environmental law for the protection of the Nigerian environment. This work focuses more on oil pollution and marine pollution and offers a brief discussion on the Kyoto Protocol.¹⁰⁴ A recent publication by Adamu Kyuka Usman¹⁰⁵ in 2017 failed to critically analyse the Nigerian legal responses or its legal obligations under international law to adapt and mitigate the consequences of climate change. Though, Adamu in this book discussed the causes of global warming and environmental economics

⁹⁸ U D Ikoni, *An Introduction to Nigerian Environmental Law* (Malthouse Law Books Press Limited 2010).

⁹⁹ O Fagbohun, *The Law of Oil Pollution and Environmental Restoration* (Odade Publishers, Lagos, 2010).

¹⁰⁰ M T Ladan, *Trend in Environmental Law and Access to Justice in Nigeria* (Lambert Academic Publishing, Germany, 2012).

¹⁰¹ L A Atsegbua and F Dimowo, *Environmental law in Nigeria: Theory and practice* (Ababa Press 2004); L A Atsegbua, *Nigerian Petroleum Law: The Acquisition of Oil Rights in Nigeria*. (Renstine Nigeria Publishers 1993).

¹⁰² L A Atsegbua and F Dimowo, *Environmental law in Nigeria: Theory and practice* (Ababa Press 2004) 25-30.

¹⁰³ L A Atsegbua and F Dimowo, 2004. *Environmental law in Nigeria: Theory and practice* (n-360) 176-180.

¹⁰⁴ D S Olawuyi, *Principles of Nigerian Environmental Law (Environmental Law)* (Business Perspectives Publishing 2013).

¹⁰⁵ A K Usman, *Environmental protection law and practice* (Malthouse Press 2017)171-193.

principles of cost-benefit analysis. The author also discussed the Nigerian legal framework dealing with the protection of the environment, environmental standards for waste management and briefly discussed environmental litigation.¹⁰⁶

Some specific publications relating to how the Nigerian government responds to climate change are that of the publication of Nachmany and Townshend,¹⁰⁷ Koblowsky,¹⁰⁸ Onyishi,¹⁰⁹ Yusuf Ali¹¹⁰ and Orji.¹¹¹ Nachmany and Townshend provide a review of climate change law in 99 countries, including Nigeria. In this book, about 66 countries' legislation to climate change is explained,¹¹² but only three pages provide information on the Nigerian government's responses to climate change policy.¹¹³ There was no analysis of the legal responses of the Nigerian government to effectively combat the impacts of climate change and realise its international climate change targets, but the information contained in this book will help in the course of this research. Yusuf Ali¹¹⁴ argues that climate change will create opportunities for lawyers in Nigeria, like renewable energy and atmospheric litigation.¹¹⁵ The author encourages Nigerian lawyers to develop expertise in the field of climate change regulation. This article is merely informing Nigerian lawyers of the trending area of law: renewable energy development

¹⁰⁶ Ibid 171-193.

¹⁰⁷M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the 2015 Global Climate Legislation Study a Review of Climate Change Legislation in 99 Countries.

¹⁰⁸P Koblowsky and C Speranza, 'Institutional challenges to developing a Nigerian climate policy (2010) boris.unibe.ch.

¹⁰⁹ D Amobi, and T Onyishi, 2015. 'Governance and climate change in Nigeria A public policy perspective (2015) 9(2) Journal of Policy and Development Studies 199-209.

¹¹⁰Y O Ali, Legal Profession and Climate Change in Nigeria > https://www.yusufali.net/articles/legal_profession_and_climate_change_in_nigeria.pdf > Accessed 12 June 2018

¹¹¹J U Orji, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) OPEC Energy Review 149-183.

¹¹² M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the 2015 Global Climate Legislation Study A Review of Climate Change Legislation in 99 Countries.

¹¹³ Ibid at 664-665.

¹¹⁴Y O Ali, Legal Profession and Climate Change in Nigeria > https://www.yusufali.net/articles/legal_profession_and_climate_change_in_nigeria.pdf > Accessed 12 June 2018

¹¹⁵ Ibid at 6.

and atmospheric litigation.¹¹⁶ Koblowsky¹¹⁷ and Onyishi¹¹⁸ discussed the lack of institutions in Nigeria to fight climate change. They argue that this legal weakness slows down the design and implementation of responses to mitigate and adapt to climate change.¹¹⁹ Orji provides a legal framework for gas flaring laws in Nigeria.¹²⁰ In this article, Orji briefly pointed out that penalties impose on the operators by the laws to stop gas flaring is too low.¹²¹

The following publications, Koblowsky's article, which briefly identified the lack of institutions in Nigeria to combat the consequences of climate change,¹²² and Orji, who provides gas flaring laws in Nigeria, seems to be on point but did not give a detailed explanation on how the Nigerian government is doing to effectively combat climate change through legal mechanisms with the aim of achieving the NCCIOs under the climate change regime. There is an influx of climate change issues arising every year, as evidenced by the various climate change agreements starting from the UNFCCC, Kyoto Protocol, and Paris Agreement down to related SDGs. None of these publications comprehensively capture developing countries' climate change obligations from these instruments and how effectively developing countries

¹¹⁶ Ibid.

¹¹⁷P Koblowsky and C Speranza, 'Institutional challenges to developing a Nigerian climate policy (2010) boris.unibe.ch.

¹¹⁸D Amobi, and T Onyishi, 2015. 'Governance and climate change in Nigeria A public policy perspective (2015) 9(2) Journal of Policy and Development Studies 199-209; Y Oke, 2013, October. 'International Climate Law and Mining Regulation—Perspectives from Developing Countries (2013) International Law and Global Governance 899-932. He talks about incorporating international climate policy in Nigeria in the mining industry in order to combat climate change. See also, J O Magbadelo, 'Political Imperative of Managing Climate Change for Sustainable Development in Nigeria's Oil and Gas Sector (2013) 31 The Journal of Political Science. 23-42.

¹¹⁹J O Magbadelo, 'Political Imperative of Managing Climate Change for Sustainable Development in Nigeria's Oil and Gas Sector (2013) 31 The Journal of Political Science. 23-42.

¹²⁰ J U Orji, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) OPEC Energy Review 149-183; M O Edino, and L S Bombom, 2010. Perceptions and attitudes towards gas flaring in the Niger Delta, Nigeria (2010) 30(1) The Environmentalist 67-75; O Anomohanran, 'Determination of greenhouse gas emission resulting from gas flaring activities in Nigeria (2012) 45 Energy Policy 666-670; A O Bisong, 'The Effects of Natural Gas Flaring on Climate Change in Nigeria' (2014) In SPE Nigeria Annual International Conference and Exhibition Society of Petroleum Engineers 5-7.

¹²¹ J U Orji, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) OPEC Energy Review at 153.

¹²²P Koblowsky and C Speranza, 'Institutional challenges to developing a Nigerian climate policy (2010) boris.unibe.ch.

like Nigeria's legal system can perform in achieving the reduction of GHG emissions under the climate change regime.

It is important to note that there are other publications relating to this research, such as key Nigerian newspapers and online publications which explain non-legal issues that might affect the realisation of the NCCIOs.¹²³ Some of the issues highlighted are financial constraints,¹²⁴ the huge amount of money needed for adaptation and mitigation programmes, and corruption.¹²⁵ Akhakpe, in a 2018 publication, argued that the Nigerian government is willing to manage climate change to sustainable development. However, inadequate policies and implementation and lack of funding and awareness are some of the limitations that confront the government from realising the fight against climate change.¹²⁶

1.4.5 GAPS IDENTIFIED IN THE EXISTING LITERATURE

From the literature review, the focus of academics on climate change centered on first, the global efforts of regulating the emissions of GHG under the UNFCCC and Kyoto Protocol, especially the developed countries' obligations were the major focus of the climate change debates.¹²⁷ Second, many scholars channel their discourse on the climate justice issue: distribution of emissions reduction of GHG between developed and developing countries.¹²⁸ Third, most of the academics who wrote on Nigeria are to inform or make predictions of the

¹²³Transparency International available at < <https://www.transparency.org/en/countries/nigeria> > accessed 12.August 2020; Socio-Economic Rights and Accountability, From Darkness To Darkness (2017) at 3-5 available at <http://serap-nigeria.org/wp-content/uploads/2017/08/CORRUPTION-IN-ELECTRICITY-REPORT-A4.pdf> > Accessed 10th April 2020.

¹²⁴Onyedikachukwu Ozongwu, 'Paying for our climate: Nigeria should do more on financing climate goals' (The Nation Newspaper 2017) > <http://thenationonlineng.net/paying-climate-nigeria-financing-climate-goals/>> accessed 10 July 2018.

¹²⁵Olushola Fadairo, 'Climate change projects aren't working because communities are left out' (The Conversation 2017)> <http://theconversation.com/climate-change-projects-arent-working-because-communities-are-left-out-71905>> accessed 10 July 2018.

¹²⁶I B Akhakpe, 'Climate Change and Sustainable Development in Nigeria. Handbook of Research on Environmental Policies for Emergency Management and Public Safety (2018) 209.

¹²⁷ See Section 1.4.2 Secondary Documents (Literature Relating to the Global Control Of GHG.

¹²⁸ See Section 1.4.2 Secondary Documents (Literature Relating to the Global Control Of GHG.

scientific impacts of climate change which the IPCC has already written.¹²⁹ Even the few scholars who discussed environmental issues relating to Nigeria did not discuss the influx of climate change obligations and targets arising from UNFCCC, Kyoto Protocol, the Paris Agreement, the NDCs, and related SDGs. Again, the above literature did not discuss the standards and the relationships among these instruments and opportunities they create at the national level, which may help the Nigerian government prioritise and implement in the coming years. Furthermore, none of the literature survey and analyse the climate change-related policies and laws published by the Nigerian government, whether they reflect or incorporate the NCCIOs and how they could help the Nigerian government achieve the NCCIOs under climate change regime.

Therefore, this research aims to fill these gaps by analysing the legal obligations created by the international climate change regime, especially the influx of issues such as the nexus between climate change obligations, Nigeria NDC, and key SDGs. Noting the nexus between climate change regime, NDC, and SDGs, this study also assesses how the Nigerian government integrates such links into national laws and policies. Most importantly, this research also analyses the effectiveness of the existing national laws and policies to achieve the NCCIOs in the future.

1.5 SUBSIDIARY RESEARCH QUESTIONS

The primary research question of this thesis is provided in section 1.1 of this chapter. In order to investigate the scope of the primary research question effectively, the scope of the investigation is limited to the following subsidiary questions: They are:

¹²⁹ See Section 1.4.3 Existing literature on climate change relating to Nigeria.

- What are the impacts of climate change on Nigeria's environment, agriculture, and the people? (Chapter 2)
- What are the international climate change legal obligations imposed on the Nigerian government from the climate change instruments? What relationship exists between the obligations and the Nigeria NDC and key SDGs? (Chapter 3)
- What role do the Nigerian Parliament and the Executive arms of government play in addressing climate change? Do the key climate change-related laws, regulations, and policies initiated by these arms of government incorporate key principles of the climate change regime? (Chapter 4)
- What is the relationship between RE development obligation, SDG 7, and the Nigeria NDC energy targets? What role do the Nigerian energy-related policies and programmes play in addressing the impacts of climate change to achieve the NCCIOs? Do the energy policies incorporate the energy obligation of Nigeria? What role do the Clean Development Mechanism (CDM) projects play to reduce GHG emissions in Nigeria? (Chapter 5)
- What is the relationship between forest obligation, SDG 15, and the Nigeria NDC forest-related targets? What role do the forest-related laws, policies, and programmes in Nigeria play in addressing the impacts of climate change to achieve the NCCIOs? What role does the REDD+ programme play in reducing emissions in the forest sector? (Chapter 6)
- Can the existing Nigerian institutions in relation to climate change effectively perform in achieving the NCCIOs? Are the existing institutions collaborating and implementing the NCCIOs at the national level? (Chapter 7)
- What is the way forward? (Chapter 8)

1.6 AIMS AND OBJECTIVES OF THIS RESEARCH

As highlighted above, the aim of this thesis is to critically analyse the legal mechanisms of Nigeria whether they can address the negative impacts of climate change and achieve the NCCIOs in the coming years. To achieve this aim, the following objectives listed are essential, and they will enable the researcher to achieve the overall aim of this research.

- First, this research assesses the drivers and the consequences of the impacts of climate change in Nigeria, particularly the impact on agriculture, the environment, and the people living in the environment.
- Second, this research assesses and analyses the legal framework of international climate change agreements such as, the UNFCCC, the Kyoto Protocol, Paris Agreement, the Nigeria NDC, and key SDGs particularly, the principles and the obligations arising from these agreements which Nigeria as a developing country and a party to the agreements is expected to perform.
- Third, this research assesses the role of Parliament and the Executive arms of the Nigerian government in incorporating climate change principles. The focus here is to assess key primary laws and regulations passed by the Parliament and few general policies initiated by the Executive arm of the government whether the laws and policies reflect the principles arising from the climate change regime.
- Fourth objective is to assess the role of Nigerian energy policies, programmes, and the CDM to achieve the energy obligation. The focus is to assess key sectoral renewable energy policies, renewable energy programmes, and the CDM programme in Nigeria.
- Fifth objective is to assess the role of forest-related laws, policies, and programmes in Nigeria to address the forest obligation. The focus here is to assess the National Forest Policy 2006, key forest-related programmes, and the REDD+ programmes to reduce emissions in the forest sector of Nigeria.

- Sixth is the role of existing institutions in Nigeria to implement climate change obligations, targets, and programmes in Nigeria. The capacity of the climate change-related institution to assess funds, reports climate change activities, and educate citizens of the impacts of climate change.
- Seventh, this research assesses best practices from other legal systems similar to Nigeria. Looking beyond Nigeria by surveying other jurisdictions in relation to this topic will unveil shortcomings of the existing Nigerian institutions in the country. This will also encourage the Nigerian government to learn from other jurisdictions in the fight against climate change.

1.7 CONTRIBUTIONS TO KNOWLEDGE

First, this research shifts the debate of climate change from the international effort to adapt and reduce GHG emissions globally to a developing country, mainly Nigeria's effort at the national level to cut down GHG emissions. Second, not only does this research shift GHG emission reduction debate to Nigeria, but it also unveils developing countries' obligations as it concerns Nigeria under the climate change regime, especially the general obligations arising from the UNFCCC, Kyoto Protocol, Paris Agreement, and the voluntary pledges contained in Nigeria NDC.

Third, this is original research. For the first time, the researcher identifies and analyses the synergies between the key climate change obligation, the Nigeria NDC targets, and similar key SDGs. The aim is to identify critical areas of immediate needs of the Nigerian government, which will help the government channel resources to key priority climate change obligations that are linked with the Nigeria NDC and key SDG targets in the coming years. More importantly, this research shows the significance of the synergy between the climate change obligations, key associated SDG targets, and Nigeria NDC targets. That is, the achievement of

crucial climate change obligations would lead to the achievement of similar NDC targets and similar SDG targets.¹³⁰

Fourth, this research adds to the literature that has assessed and revealed Nigeria's current climate change-related laws and policies. This research has taken a further step to assess the pending Climate Change Bill of Nigeria. For the first time, this thesis also assessed the climate change-related laws and policies, including the Bill against the climate change obligations, whether the climate change-related laws incorporate the NCCIOs. The importance of revealing the incorporation of the NCCIOs, on the one hand, will help policymakers, especially the Nigerian government, to implement the existing laws and policies to achieve the NCCIOs. On the other hand, it will help policymakers amend the laws and policies if they do not incorporate the NCCIOs.

Aside from the above-stated contributions, there are several other ways this research will contribute to the Nigerian government in the fight against climate change. For instance, this research unveiled that Nigeria needs to concentrate on the energy and forest sectors to achieve most of its commitments on key climate change-related SDGs, climate change obligations, and Nigeria NDC. Again, this research unveils to the Nigerian government that the implementation of the NCCIOs at the national level will contribute to the stabilisation of GHG emissions at the global level and at the same time reduce the impacts of climate change at the national level. Not only that but measures also that will be taken to implement the NCCIOs as highlighted under the Paris Agreement can transform Nigeria's economy by creating employment, alleviating poverty, and improving the social well-being of the people.

¹³⁰ See chapter 8 section 8.2.1 utilise the existing policies to align climate change obligation, key SDGs, and Nigeria NDC linkages.

This research will also help Non-Governmental Organisations and environmental and human rights activists discuss challenges, legal and non-legal challenges, and other issues relating to climate change in Nigeria, such as the achievement of the NCCIOs in the present climate change regime. This will create public awareness, and it may make the citizens of Nigeria ask for the Nigerian government to take measures and implement the NCCIOs actively. More importantly, this research will serve as a reference document to many academics and researchers who will further investigate the NCCIOs—especially the linkages of climate change, key SDGs, and Nigeria NDC.

1.8 METHODOLOGY

A research methodology is a key segment of research work.¹³¹ In other words, it is a research strategy.¹³² Every good research must have a research strategy or methodology, and an appropriate methodology depends on the research questions or problems the researcher intends to address.¹³³ On this note, this research adopts a socio-legal methodology as a strategy. Socio-legal research relates to the study of law in its broader context—this encompasses examining the law, institutions, and legal issues from different viewpoints and perspectives.¹³⁴ Socio-legal research ‘involves treating legal subjects broadly, using materials from other social sciences, and from any other discipline that helps to explain the operation in practice...’.¹³⁵ This is why socio-legal research is also described as an interdisciplinary one that combines

¹³¹Dissertation Writing Service, <http://www.howtodo.dissertationhelpservice.com/what-is-research-methodology-and-its-importance/> Accessed 18 March 2018.

¹³² Henn, Weinstein and Foard, A Critical Introduction to Social Research (2nd edn, SAGE Publications 2009)10.

¹³³A Pinsonneault And K L. Kraemer, ‘[Survey Research Methodology in Management Information Systems: An Assessment](#)’(1993) 10 Journal of Management Information System 75, 81.

¹³⁴L Mather, Law and society in the Oxford Handbook of Political Science 2011.

¹³⁵ S Bottomley and S Bronitt, Law in context (Federation Press, Sydney 2012) Available at < [Series - Cambridge University Press](#) > accessed 20 March 2021.

both *doctrinal*¹³⁶ and *non-doctrinal* analysis to solve legal issues (emphasis added).¹³⁷ It was stated by Banakar and Travers that socio-legal methodology allows critiquing the laws and policies.¹³⁸ As Malcolm noted, socio-legal methodology speaks with three voices. ‘[I]t speaks as policy analysis.’¹³⁹

Socio-legal is also concern with the effectiveness of the law in society or ¹⁴⁰ ‘studying the realities of the law in action.’¹⁴¹ According to Perry, the ‘socio-legal work ... is interdisciplinary and sociologically attuned.’¹⁴² The belief is that law does not operate alone and that its functions depend on other societal factors. This implies that socio-legal methodology allows a researcher to analyse the law and how the law works in society. As rightly noted by Perry ‘socio-legal approaches consider not only legal texts but also the contexts in which they are formed, destroyed, used, abused, avoided and so on.’¹⁴³

From the aim and objectives outlined above, this research critically analyses the effectiveness of the Nigerian legal system in responding to the consequences of climate change with the aim of realising the NCCIOs. This involves analysing the laws and policies as well as the effectiveness of the laws and policies to realise Nigeria’s climate change obligations. The need

¹³⁶ Doctrinal research implies a ‘systematic analysis of statutory provisions and of legal principles involved therein...’ See K Vibhute and F Aynalem, *Legal Research Methods Teaching Material* (2009 JLRI) 1, 71 <https://www.academia.edu/8221697/Legal_Research_Methodology> accessed 16 November 2018.

¹³⁷ S Blandy, *Socio-legal approaches to property law research. Kings and Bishops in Medieval England*, The University of Sheffield (2015) 4.

¹³⁸ R Banakar and M Travers, *Theory, and method in socio-legal research* (Bloomsbury Publishing 2005) 1, 157.

¹³⁹ Feeley, M.M., 2001. Three voices of socio-legal studies. *IsR. L. REv.*, 35, p.175 at 175; K Vibhute and F Aynalem, *Legal Research Methods Teaching Material* (2009 JLRI) 1, 44 <https://www.academia.edu/8221697/Legal_Research_Methodology> accessed 16 November 2018.

¹⁴⁰ M M Feeley, Three voices of socio-legal studies (2001) 35 *IsR. L. REv.*, 175 at 176; Harris, ‘The development of socio-legal studies in the United Kingdom’ (1983) 3 *Legal Studies* 315, 315. 51; W Dawn and B Mandy, *Research Methods in Law*’ (Routledge 2013) 35; P. K manda ‘Socio-legal approaches to international economic law: text, context, subtex (Routledge 2013).

¹⁴¹ Harris, ‘The development of socio-legal studies in the United Kingdom’ (1983) 3 *Legal Studies* 315, 315. 51; W Dawn and B Mandy, *Research Methods in Law*’ (Routledge 2013) 35; P K Amanda ‘Socio-legal approaches to international economic law: text, context, subtex (Routledge 2013).

¹⁴² A Perry-Kessarais, ‘What does it mean to take a socio-legal approach to international economic law?’ In *Socio-Legal Approaches to International Economic Law* (2013) Routledge 17-32, 21.

¹⁴³ A Perry-Kessarais, ‘What does it mean to take a socio-legal approach to international economic law?’ (2013) In *Socio-Legal Approaches to International Economic Law* (2013) Routledge 17-32, 21.

to analyse Nigeria's law and its effectiveness or impact is deduced from the research questions and the objectives.

Key research questions in chapters 3, 4, 5, and 6 require legal analysis. For instance, questions bordering the climate change international legal obligations, the role of the Nigerian parliament and the executive arms of the government, the role of energy-related policies and programmes of the Nigerian government, and many others require legal analysis. In other words, these questions lead to analysing developing countries' obligations under the UNFCCC, the Paris Agreement, and the Kyoto Protocol. Also, questions 4, 5, and 6 lead to identifying and critiquing Nigerian's climate change-related laws, particularly assessing the renewable energy policies, forest policy, key legislation, regulations, and institutions. The legal or doctrinal analysis of these laws and policies gives a clearer picture of the weaknesses of the climate change laws and policies set up by the Nigerian Parliament to curb climate change to meet up the NCCIOs. Again, the legal analysis unveils whether the laws and policies incorporate the NCCIOs. The analysis further unveils whether there are loopholes and gaps.

Aside from identifying and critiquing the laws and the policies, another key aim of this research is the realisation of the NCCIOs in the coming years which might be outside the legal documents. This means merely identifying, analysing, and critiquing the weaknesses of the laws and regulations may not fulfil this research's aim. In other words, 'attention to legal doctrine alone will not provide answers to some of the key questions posed by this thesis.'¹⁴⁴ The question in chapter 2, where the research inquires the impacts of climate change in Nigeria, requires analysing non-legal materials about the impacts of climate change and its adverse impacts on the Nigerian environment. Also, the question in chapter 7, where the research

¹⁴⁴G L Priest, 'The growth of interdisciplinary research and the industrial structure of the production of legal ideas: A reply to Judge Edwards (1993) 91(8) Michigan law review 1929-1944, 1932.

considers issues like the effective implementation of laws and policies by climate change Ministries Department and Agencies (MDAs). For instance, the capacity of the existing MDAs to assess funds and carry out programmes and projects, the capacity to report climate change activities, the capacity to enforce the climate change-related laws at the national level. An in-depth analysis of these issues unveils that effective implementation requires other factors such as funding, capacity building, ending gas flaring, and many others. Critical analyses revealed that ending gas flaring may affect the country's economy, and the government may not effectively implement the laws even though there are existing laws. These issues border on both political and social factors, and it requires socio-legal methodology in discussing them.¹⁴⁵

Therefore, in line with socio-legal methodology, a chosen approach to this issue must consider other social factors that may affect the realisation of the NCCIO. Other social factors that may affect the realisation of Nigeria's climate change obligations may be deduced from non-legal materials.¹⁴⁶ The socio-legal methodology allows this because it looks beyond a purely legal perspective and includes other social factors.¹⁴⁷ That is why socio-legal methodology is also described as interdisciplinary, incorporating and synthesizing both legal and social perspectives.¹⁴⁸ This methodology gives a better perspective to the researcher to analyse the laws and policies and other political and social factors that may hinder the realisation of the NCCIOs in the future.

¹⁴⁵K Vibhute and F Aynalem, *Legal Research Methods Teaching Material* (2009 JLRI) 71 <https://www.academia.edu/8221697/Legal_Research_Methodology> accessed 16 November 2018.

¹⁴⁶ This is further discussed in section 1.9.

¹⁴⁷A Perry-Kessaris, 'What does it mean to take a socio-legal approach to international economic law?' In *Socio-Legal Approaches to International Economic Law* (2013) Routledge 17-32, 21.

¹⁴⁸A Perry-Kessaris, 'What does it mean to take a socio-legal approach to international economic law?' In *Socio-Legal Approaches to International Economic Law* (2013) Routledge 17-32, 21; R Banakar, *Merging Law and Sociology: Beyond the Dichotomies of the Socio-Legal Research* (Berlin, Glada and Wilch Verlag, 2003) 45.

1.9 METHODS

Methods ‘are the tools, techniques or processes use in research.’¹⁴⁹ For this research and the methodology chosen, the source of information used is public documents such as statutory materials, laws, regulations, policies, books, journal articles.

The primary materials used in this research are those climate change statutes that the United Nations publish, ranging from UNFCCC, Kyoto Protocol, SDGs, and various Agreements reached by the Conference of the Party (COP) to the UNFCCC. Primary documents at the national level are found in the National Gazette; these are the ‘Laws of Federation of Nigeria 2004.’¹⁵⁰ These laws were reviewed in 1999 when Nigeria embraced democracy; they were later reviewed and compiled in 2004. The latest compilation of these laws is the present 2010 edition.¹⁵¹

Relevant secondary materials used are academic books, articles, newspapers in relation to climate change in Nigeria. Also, the report from United Nations Environment Programme (UNEP) relating to climate change in Nigeria, reports from Non-Governmental Organisation like Friends of the Earth, and also reports from other government agencies such as the United State Agency for International Development (USAID) in the United States of America (USA) and Department for International Development (DFID) in the United Kingdom (UK) are used. These agencies published climate change reports in relation to Nigeria, especially the DFID made a comprehensive study on climate change impacts in Nigeria.

¹⁴⁹Whānau Ora Research, < <http://whanauoraresearch.co.nz/news/method-or-methodology-whats-the-difference/>>accessed 7 March 2018.

¹⁵⁰Centre for Laws of The Federation of Nigeria< <http://lawnigeria.com/Federationlaws-ALL.html>>accessed 6 March 2018.

¹⁵¹ Ibid.

To locate this source of materials, especially the legislation, Nigerian law websites such as Legalpedia, Laws of the Federation of Nigeria is helpful.¹⁵² Apart from this website, the Environmental Law Research Institute is helpful.¹⁵³ The method used to locate primary materials is the use of keywords like ‘SDG’ Paris Agreement’ ‘UNFCCC,’ ‘climate change agreements in relation to developing countries,’ ‘Kyoto Protocol’, ‘Laws of the Federation of Nigeria’ ‘Climate Change Act of Nigeria.’ This produces relevant primary authorities in respect of climate change in this research.

Locating secondary materials is the same as the primary materials. These materials are accessed in Google search, Google Scholar, UWE library search, HeinOnline, law database search, Lexis library, West Law, and many others. Also, bibliographies of journals and books help locate more useful materials in writing this research. To search for secondary materials, the keywords used are: ‘climate change in Nigeria’ or ‘law and climate change in Nigeria’, ‘the impacts of climate change in Nigeria’, ‘developing countries obligation under the climate change regime.’

These keywords helped to quickly locate journal articles and books written concerning the chosen research topic. When materials are found, glancing through the abstract and the conclusion unveils whether such material is relevant to the chosen topic. Caution is taken in respect of using the secondary materials as some of the published materials may not be of high quality. To know high-quality secondary material, it must be peer-reviewed, and the qualifications and expertise of the writer are also important.

¹⁵² Centre for Laws of The Federation of Nigeria < [LAWS OF THE FEDERATION OF NIGERIA – Laws \(lawnigeria.com\)](http://www.lawnigeria.com) > accessed 6 March 2018.

¹⁵³ Environmental Law Research Institute <http://www.elri-ng.org/> > accessed 25 November 2018.

1.10 LIMITATIONS OF THE RESEARCH

First, this is desk-based research that relies on published academic works and policies. The limitation is that if there are no previous investigations and published work concerning any issues of this research, it is challenging to access current information and analyse. A good example is the Department of Climate Change (DCC), Nigeria's primary climate change institution. The website of the DCC contains minimal information; recent climate change activities are not uploaded, neither is old information updated. Therefore, the researcher has to rely on relevant climate change information about Nigeria from the UNFCCC websites.

Second, the responses to climate change, especially the legal mechanisms to combat climate change, are not fully developed in Nigeria. The major legislative instrument like the Climate Change Bill of Nigeria is still pending before the parliament. Though, there are some useful existing policies regarding renewable energy development. However, most academic work relating to climate change laws in Nigeria is limited to just gas flaring and did not explore the debate of climate change relationship with the forest sector, Nigeria NDC. This created a considerable gap in the available literature. The lack of legal development also resulted in a paucity of court pronouncements on Nigeria's laws and policies regarding climate change issues. There is only one known case, *Shell v Gbemre*¹⁵⁴ where a High Court in Nigeria ordered to stop GHG emissions by the multinational oil companies operating in Nigeria. In this sense, legal analysis relating to court decisions is limited in this research. However, this research encourages the citizens to use the judiciary to enforce climate change commitments the Nigerian government has agreed to perform. This research cited recent climate change decisions from other jurisdictions to justify this position.

¹⁵⁴Federal High Court of Nigeria Benin Judicial Division Suit No: fhc/b/cs/53/05 (Judgment of 14 November 2005).

Third, some climate change policies initiated by the Executive arm of the government cannot be accessed online and on the website of the Nigerian government. To solve this problem, the researcher contacted relevant agencies such as the Department of Climate Change, Energy Commission of Nigeria to access hard copies that cannot be accessed online.

1.11 STRUCTURE OF THE RESEARCH

Chapter 2 discusses the link between climate change and anthropogenic activities. It highlights the key drivers of emissions of GHG in Nigeria. This chapter also surveys the consequences of both direct and indirect impacts of climate change, as evidenced by several publications like the environment, agriculture, and social impacts in Nigeria. Most importantly, this chapter shows that the impacts of climate change may threaten the realisation of key SDGs such as ending hunger and poverty, which the Nigerian government committed to achieving in 2030.

Chapter 3 provides the international legal framework of the climate change regime. It analysed key principles and the climate change international legal obligations arising from the UNFCCC, the Kyoto Protocol, the Paris Agreement, and the Nigeria NDC targets. This chapter highlights the linkages of climate change obligations, the Nigeria NDC targets, and key interrelated SDGs. It shows the implications of the interrelationships and the need of the Nigerian government to prioritise key sectors the Nigerian government should focus on in order to achieve the NCCIOs in the coming years.

Chapter 4 assesses the legal framework of Nigeria especially, the role the Nigerian Parliament and the Executive arms of government play in incorporating climate change principles in Nigeria. This chapter critically analysed key climate change-related legislation, regulations, and general policies of the Executive arm of the government. It answers the question, whether the laws and the general policies of climate change incorporate key climate change principles.

Chapter 5 examines the role the Nigerian energy-related policies and programme play in addressing climate change in Nigeria. This chapter critically evaluates the energy obligation of Nigeria. It unveils the necessity of the Nigerian government to prioritise the energy sector as the second largest emitter of GHG in Nigeria. It critically analysed the sectorial renewable energy-related policies and programmes and whether they incorporate the renewable energy-related climate change obligations, SDG 7 targets, and Nigeria NDC renewable energy-related pledges.

Chapter 6 concentrates on forest and climate change. This is because Agriculture, Forestry and Other Land Use (AFOLU) sector is the largest emitter of GHG in Nigeria. This chapter evaluates the role of Nigeria's forest-related policies and programmes in addressing climate change. This chapter concentrates on the forest obligations of Nigeria. It shows the need of the Nigerian government to prioritise the AFOLU sector, which recorded the highest GHG emission in Nigeria. This chapter critically examined the forest policy, programmes, and key indirect forest-related laws of Nigeria. It answers the question of whether the forest-related policy and laws incorporate the forested-related climate change obligation, SDG 15 key targets, and the Nigeria forest-related NDCs.

Chapter 7 critically scrutinises the role of key existing climate change-related MDAs in implementing climate change obligations at the national level. This chapter analysed the capacity of the existing climate change MDAs to access funds, carry out climate change education and awareness programmes, and collaborate with similar MDAs to implement the Nigerian climate change obligations.

Chapter 8 provides series of recommendations to the issues discussed from chapters 2-7 of this thesis. This chapter proposes both legal and non-legal suggestions to the Federal government

of Nigeria, the MDAs, NGOs, intergovernmental organisations, and Nigeria citizens. It highlighted the roles all the agents need to carry out in order to improve renewable energy development and reduce GHG emissions in the forest sectors. This chapter also recognises an overarching challenge the Nigerian government might confront while implementing the climate change obligations.

Chapter 9 concludes the thesis. It reflects the research objectives. It summarises this thesis and shows how chapters 2-9 of this research achieved the objectives and subsidiary questions.

CHAPTER 2

CLIMATE CHANGE, THE DRIVERS AND THE IMPACTS IN NIGERIA

2.1 INTRODUCTION

The global atmosphere is warming.¹⁵⁵ According to the Intergovernmental Panel on Climate Change (IPCC) First Assessment Report in 1990, the global temperature has increased by 0.3°C to 0.6°C over the last 100 years.¹⁵⁶ Aside from this, the IPCC also explained the rising global temperature with new figures and facts in its successful findings, including but are not limited to the IPCC Second Assessment Report in 1995,¹⁵⁷ the Third Assessment Report in 2001,¹⁵⁸ the Fourth Assessment Report in 2007,¹⁵⁹ the Fifth Assessment Report in 2013,¹⁶⁰ and the Sixth Assessment Report in 2018.¹⁶¹ In the Sixth Assessment Report, the IPCC states that

¹⁵⁵ The following are among different organisations that have researched on climate change and affirm the position that the global climate is warming. They are: The Greenpeace <https://www.greenpeace.org.uk/>; United State Environmental Protection Agency <https://www.epa.gov/>; Climate Action Network International <http://www.climateactionnetwork.org/>; Climate Central <http://www.climatecentral.org/>; The Climate Group <https://www.theclimategroup.org/>; Department of Energy and Climate Change <https://www.gov.uk/government/organisations/department-of-energy-climate-change>; Centre for International Climate Research <https://www.cicero.oslo.no/en/>; Climate change Performance Index <https://germanwatch.org/en/CCPI> and many more.

¹⁵⁶ J Houghton and J Ephraums, *Climate Change*, Intergovernmental Panel on Climate Change (The IPCC scientific assessment, Mass, Cambridge 1990); J Ralph, Cicerone and Paul Nurse *Climate Change Evidence & Causes*; An overview from the Royal Society and the US National Academy of Sciences (Q and A).

¹⁵⁷ J Houghton and T John, *Climate change 1995: The science of climate change: contribution of working group I to the second assessment report of the Intergovernmental Panel on Climate Change* (Vol. 2. Cambridge University Press, 1996) 4.

¹⁵⁸ J Houghton and T John, *Climate change 2001: the scientific basis*. The Press Syndicate of the University of Cambridge 2001) 1.

¹⁵⁹ S Solomon, *Climate change 2007-the physical science basis: Working group I contribution to the fourth assessment report of the IPCC* (Vol. 4 Cambridge university press) 4 and 5.

¹⁶⁰ R.K. Pachauri and L.A. Meyer, *Climate Change 2014: Synthesis Report*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change 151. Though, IPCC is currently in its sixth assessment cycle which will be ready for facilitative dialog at the end of 2018.

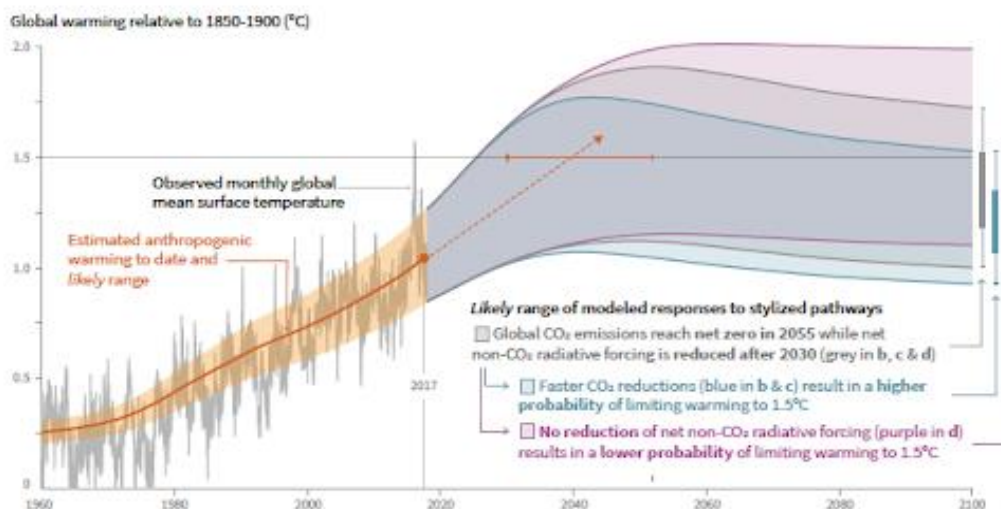
¹⁶¹ V Masson-Delmotte and T Waterfield, IPCC, 2018: Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* (eds. 2018 World Meteorological Organisation, Geneva, Switzerland)33.

‘[g]lobal warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.’¹⁶²

Figure 2.1 IPCC 2018 graph showing the possibility of the temperature reaching 1.5°C if the current rate of warming continues.¹⁶³

Cumulative emissions of CO₂ and future non-CO₂ radiative forcing determine the probability of limiting warming to 1.5°C

a) Observed global temperature change and modeled responses to stylized anthropogenic emission and forcing pathways



There are two important questions arising from these data: first, what are the causes of the rising global temperature? Second, what consequences do these data, the increase of the global atmosphere, have on the world and several regions around the world, especially Africa and Nigeria? It has been said that the rising global temperature is the result of anthropogenic activities of man, and this has environmental consequences.¹⁶⁴ For instance, the warming climate may lead to glacier mass loss and ocean thermal expansion.¹⁶⁵ This may lead to global

¹⁶² Ibid 3.

¹⁶³ Copied from Climate Change 2018: V Masson-Delmotte and T Waterfield, IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (eds. 2018 World Meteorological Organisation, Geneva, Switzerland) page 6.

¹⁶⁴ K Mach and M Mastrandrea, Climate change 2014: impacts, adaptation, and vulnerability. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 8.

¹⁶⁵Ibid, K Mach and M Mastrandrea, Climate change 2014: impacts, adaptation, and vulnerability. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 4.

sea level rise¹⁶⁶ where flooding is likely to happen. The warming climate also affects land and its resources. It is one of the established facts that the changing climate causes drought.¹⁶⁷ When there is a drought, there is a likelihood of scarcity of water, and when water is scarce, there may be a low production of agriculture.¹⁶⁸

At the regional level, especially in Africa, the IPCC Fifth Assessment Report¹⁶⁹ states that the continued increase of the temperature would lead to a change in forests, which may destroy various kinds of species.¹⁷⁰ At the national level especially in Nigeria, the impacts of climate change affect nearly all country's sectors, and this impact is projected to increase in the coming years.¹⁷¹ The implication is that if there is no concrete plan to implement mitigation and adaption measures, the impact of climate change in Nigeria could result in a loss of between 2% and 11% of Nigeria's Gross Domestic Product (GDP) by 2020, rising to between 6% and 30% by the year 2050.¹⁷² This loss is equivalent to between N15 trillion (US\$100 billion) (£70.4 billion) and N69 trillion (US\$460 billion) (£325.2 billion).¹⁷³ If the national GDP

¹⁶⁶ Ibid 11; Greenpeace, 'Droughts, cyclones, floods and other extreme weather (Greenpeace 2016)' available at > <http://www.greenpeace.org/international/en/campaigns/climate-change/impacts/Extreme-weather/> > Accessed 10 October 2017.

¹⁶⁷ According to the IPCC report states that 'Climate change is projected to reduce renewable surface water and groundwater resources in most dry subtropical regions ...intensifying competition for water among sectors' see R.K. Pachauri and L.A. Meyer, Climate Change 2014: Synthesis Report. The contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. 13; K Mach and M Mastrandrea, Climate change 2014: impacts, adaptation, and vulnerability. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 6; K Mach and M Mastrandrea, Climate change 2014: impacts, adaptation, and vulnerability. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 6.

¹⁶⁸ See 2.5.2 the impacts of climate change on agriculture in Nigeria.

¹⁶⁹ R.T.Watson and M.C.Zinyowera, The Regional Impacts of Climate Change: An Assessment of Vulnerability IPCC, 1997 (Cambridge University Press, UK) 517, available at <http://www.ipcc.ch/ipccreports/sres/regional/index.php?idp=07> >Accessed 25th July 2018.

¹⁷⁰ R.T.Watson and M.C.Zinyowera, The Regional Impacts of Climate Change: An Assessment of Vulnerability IPCC, 1997 (Cambridge University Press, UK) 517, available at <http://www.ipcc.ch/ipccreports/sres/regional/index.php?idp=07> >Accessed 25th July 2018.

¹⁷¹ Building Nigeria's Response to Climate Change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) 15 available at < <http://csdevnet.org/wp-content/uploads/NATIONAL-ADAPTATION-STRATEGY-AND-PLAN-OF-ACTION.pdf> > Accessed 2nd February 2018.

¹⁷² Federal Ministry of Environment Abuja, Nigeria (Special climate change Unit) (2010) 'National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 30.

¹⁷³ Building Nigeria's Response to Climate Change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) 15 available at <

reduces, this may affect funding for infrastructural development,¹⁷⁴ and most importantly, the funding for Sustainable Development Goals (SDGs),¹⁷⁵ which is intended to deal with hunger and poverty in Nigeria.

The above examples show that those numbers are not just mere data, but they signify a potential danger to several nations,¹⁷⁶ including Nigeria.¹⁷⁷ Therefore, this chapter aims to assess the following: First, the link between the rising climate and human activities and the key drivers of climate change in Nigeria. Second, the impacts of the rising atmosphere on the environment, agricultural produce of Nigeria, and how the impacts of climate change may exacerbate the level of poverty, hunger, and social inequalities, which are part of the key SDGs the Nigerian government set to achieve in 2030.¹⁷⁸

This chapter is organised in the following manner—first, the meaning of climate change and the link between the rising climate and human activities. Second, the key drivers of climate change in Nigeria. Third, the impacts of the rising atmosphere on the Nigerian environment and agricultural produce.

<http://csdevnet.org/wp-content/uploads/NATIONAL-ADAPTATION-STRATEGY-AND-PLAN-OF-ACTION.pdf> > Accessed 2nd February 2018.

¹⁷⁴Building Nigeria's Response to Climate Change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) 15 available at <

<http://csdevnet.org/wp-content/uploads/NATIONAL-ADAPTATION-STRATEGY-AND-PLAN-OF-ACTION.pdf> > Accessed 2nd February 2018.

¹⁷⁵UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018].

¹⁷⁶ Such as Japan, Philippines, Fiji etc See David Eckstein, 'Global Climate Risk Index 2020 Who Suffers Most from Extreme Weather Events? Weather-Related Loss Events in 2018 and 1999 to 2018' available at <https://germanwatch.org/sites/germanwatch.org/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf > Accessed 12th September 2020.

¹⁷⁷U Etiosa, 'The Changing Climate and the Niger Delta' (2016), Community Research and Development Centre (CREDC), Nigeria.

¹⁷⁸ See SDG targets 1.1, 2.1 and 3.2 UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018].

2.2 CLIMATE CHANGE

Climate change is one of the most debated topics by environmentalists, non-governmental organisations (NGO), politicians, scientists, and all nations in the present time. The reason for the wide debate is the result of the known and unknown dangers climate change poses to the environment of different regions, countries, and the entire continents of the world.¹⁷⁹ Different descriptions have been given to climate change by the different users of the phrase.¹⁸⁰ Among the different definitions, one of the key definitions of climate change is the one offered by the IPCC. The IPCC is an international body made up of the World Meteorological Organisation (WMO) and United Nations Environment Programme (UNEP) to assess the effect of climate change and provide factual information to policymakers that will enable them to develop policies to combat climate change.¹⁸¹ According to the Fifth Assessment of the IPCC, 'climate change is a change in the state of the climate...or the variability of its properties, which persists for an extended period, typically decades or longer.'¹⁸² The IPCC description of climate change identified the following factors. First, climate change occurs when there is a variation or change in the earth's climate. Second, this variation or change of the earth's climate continues for a long period.

¹⁷⁹Hoegh-Guldberg, Ove, and John F. Bruno, 'The impact of climate change on the world's marine ecosystems' (2010) 328 (5985) *Science* 1523-1528.

¹⁸⁰Among different organisations that have researched on climate change are Greenpeace <https://www.greenpeace.org.uk/>; United State Environmental Protection Agency <https://www.epa.gov/>; Climate Action Network International <http://www.climatenetwork.org/>; Climate Central <http://www.climatecentral.org/>; The Climate Group <https://www.theclimategroup.org/>; Department of Energy and Climate Change <https://www.gov.uk/government/organisations/department-of-energy-climate-change>; Centre for International Climate Research <https://www.cicero.oslo.no/en/>; Climate change Performance Index <https://germanwatch.org/en/CCPI> and many more.

¹⁸¹When it comes to climate change the IPCC is the most authoritative and reliable body regarding information on climate change. <http://www.ipcc.ch/search/index.shtml> > accessed 12 November 2018; The IPCC currently has 195 members represent different nations, it has thousands of experts contribute to the reports of the IPCC by acting as reviewers.¹⁸¹ Since the formation of the IPCC, it has released five reports, assessing the scientific basis of climate change, 'it's impacts and future risks, and options for adaptation and mitigation' for policymakers around the world the IPCC is currently working on its sixth report to be released in 2020 <https://unfccc.int/news/ipcc-to-provide-special-report-on-impacts-of-15-%C2%BAc-temperature-rise>> accessed 13 November 2018.

¹⁸² K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability*. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 8.

Another definition of climate change was given by the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC is an international agreement adopted in 1992 to deal with climate change.¹⁸³ The UNFCCC is the first primary legal instrument adopted internationally to combat the impacts of climate change.¹⁸⁴ Article 1(2) of the UNFCCC defines climate change as ‘a change of climate which is attributed directly or indirectly to *human activity* that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.’¹⁸⁵ [*Emphasis added*]

The definition of UNFCCC is unlike that of the IPCC; its emphasis is on the causes of climate change, that is, human activities. However, a critical view of the UNFCCC definition unveils some similarities, especially the phrase ‘a change of climate which ... alters the composition of the global atmosphere ...observed over comparable time periods.’¹⁸⁶ This points to the fact that climate change occurs when there is an alteration or change in the earth’s atmosphere, and it must be for an extended period. The key description of climate change by both the IPCC and the UNFCCC is that whenever the earth’s climate changes and if the changes continue for a prolonged period, then there is a climate change, and the changes are attributed directly or indirectly to human activities.

¹⁸³UN General Assembly, United Nations Framework Conference of the Party twenty-first session: resolution/adopted by the General Assembly, 30 November 2015, /CP/2015/L.9/Rev.1 (accessed 4 October 2017)

¹⁸⁴J Kuyper and B O Linnér, ‘The evolution of the UNFCCC (2018) Annual Review of Environment and Resources 343-368 at 345.

¹⁸⁵UN General Assembly, United Nations Framework Conference of the Party twenty-first session: resolution/adopted by the General Assembly, 30 November 2015, /CP/2015/L.9/Rev.1 (accessed 4 October 2017).

¹⁸⁶ Article 2 (1) UN General Assembly, United Nations Framework Conference of the Party twenty-first session: resolution/adopted by the General Assembly, 30 November 2015, /CP/2015/L.9/Rev.1 (accessed 4 October 2017).

2.3 THE LINK BETWEEN HUMAN ACTIVITIES AND CLIMATE CHANGE

The IPCC clearly points out in its Fifth Assessment that ‘Human influence on the climate system is clear, and recent anthropogenic GHG emissions are the highest in history.’¹⁸⁷ A careful observation of both the UNFCCC and the IPCC suggests that human activities are the major cause of the present warming of the global atmosphere. This position was supported by the now defunct Department of Energy and Climate change in the United Kingdom when it states that ‘the increase in greenhouse gases is almost entirely due to human activity.’¹⁸⁸ This is also reaffirmed by the United State Environmental Protection Agency (EPA) that human activities have been the dominant cause of the warming atmosphere.¹⁸⁹

The question is, how do human activities cause the warming of the world atmosphere? Before the Industrial Revolution in the 1700s, climate change occurred naturally, and most of the events that cause the changes are geological processes like volcanic eruptions, earthquakes, tsunamis.¹⁹⁰ These activities release carbon dioxide to the earth’s planet.¹⁹¹ However, climate change in recent times, during and after the Industrial Revolution, is majorly tied to human activities such as population growth and demand for energy, transportation, industrial growth,

¹⁸⁷ R.K. Pachauri and L.A. Meyer, Climate Change 2014: Synthesis Report. The contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change 151.

¹⁸⁸The Department of Energy & Climate Change (DECC) was a British government department which duties are not limited but included in making sure the United Kingdom has secure, clean, affordable energy supplies, also, the department is to advocate for climate change mitigation but in 2016 the DECC was abolished and it is now part of the new department known as Department for Business, Energy & Industrial Strategy > <https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy> > accessed 23 November 2018.

¹⁸⁹The United State Environmental Protection Agency is an independent environmental protection agency established by the federal government of the United State since 1970 <https://www.epa.gov/> accessed 23 November 2018.

¹⁹⁰Climate Change 2007: Working Group II: Impacts, Adaptation, and Vulnerability; IPCC Fourth Assessment Report: https://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch1s1-2-1.html > Accessed 25 July 2018.

¹⁹¹ Ibid; United State Environmental Protection Agency, ‘Causes of climate change’> <https://19january2017snapshot.epa.gov/climate-change-science/causes-climate-change.html>> Accessed 2 December 2017.

agriculture, forestry, and other land use,¹⁹² which the IPCC refers to as drivers of climate change.¹⁹³ Drivers of climate change are ‘the elements that directly or indirectly contribute to GHG emissions.’¹⁹⁴

For instance, the growth of the world population and energy demands lead to the burning of fossil fuels (coal, oil, and gas).¹⁹⁵ These fossil fuels emit main GHGs like carbon dioxide (CO₂), methane (CH₄),¹⁹⁶ nitrous oxide (N₂O), which is a million times more than the gases produced naturally by a volcanic eruption.¹⁹⁷ Apart from fossil fuels, human activities like deforestation and other land-related activities released CO₂ into the global atmosphere.¹⁹⁸ The forests usually serve as a residual land sink to the GHG.¹⁹⁹ This means the forests retain the GHG. However, when deforestation and other land related activities started, the initially stored gases (CO₂) escaped and settled in the atmosphere.²⁰⁰ This means more gases are accumulated in the earth’s atmosphere, leading to the warming of the global atmosphere.²⁰¹ To date, the above-mentioned activities of human kept emitting these gases to the earth’s atmosphere. For instance, in 2017, the main GHG, such as carbon dioxide (CO₂), methane (CH₄), and nitrous

¹⁹² G R Blanco and P. Zhou, 2014: Drivers, Trends and Mitigation. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (eds.)] Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA at 380-385

¹⁹³ Ibid.

¹⁹⁴ Ibid at 364.

¹⁹⁵ United State Environmental Protection Agency, ‘Causes of climate change’> https://19january2017snapshot.epa.gov/climate-change-science/causes-climate-change_.html> Accessed 2 December 2017.

¹⁹⁶ Ibid.

¹⁹⁷ K Mach and M Mastrandrea, Climate change 2014: impacts, adaptation, and vulnerability. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 8.

¹⁹⁸ P.R. Shukla and J. Malley, IPCC, 2019: Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (eds.) at page 8 ; United State Environmental Protection Agency, ‘Causes of climate change’> https://19january2017snapshot.epa.gov/climate-change-science/causes-climate-change_.html> Accessed 2 December 2017.

¹⁹⁹ Ibid.

²⁰⁰ J Houghton and J Ephraums, Climate Change, Intergovernmental Panel on Climate change (The IPCC scientific assessment, Mass, Cambridge 1990, 11.

²⁰¹ J Houghton and J Ephraums, Climate Change, Intergovernmental Panel on Climate change (The IPCC scientific assessment, Mass, Cambridge 1990, 11.

oxide (N₂O) have increased by about 66%, 17%, and 6% which, exceeded the pre-industrial level.²⁰²

Aside from these three main gases, there are other fluorinated gases—man made gases, such as sulphur hexafluoride (SF₆), hydro chlorofluorocarbons (HCFCs), and hydrofluorocarbons (HFCs) that have never been released into the atmosphere before the Industrial Revolution.²⁰³ These fluorinated gases also contribute to the warming of the atmosphere.²⁰⁴ Although, the use of hydro chlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs) for the production of air conditioners and refrigerators are being phased out by the Vienna Convention for the Protection of the Ozone Layer 1985²⁰⁵ and the Montreal Protocol on Substances that Deplete the Ozone Layer 1987.²⁰⁶ However, study show that these fluorinated gases are still produced in other industrial activities, such as ‘an electrical insulator in power distribution equipment’²⁰⁷ that also contribute to climate change.²⁰⁸

²⁰²World Meteorological Organisation: WMO Greenhouse Gas Bulletin No. 14 | 22 November 2018. https://library.wmo.int/doc_num.php?explnum_id=5455 > accessed 12 December 2018.

²⁰³ It was reported that chlorofluorocarbons used as aerosol were not in the earth atmosphere before their invention in the 1930s see the IPCC first ever report. J Houghton and J Ephraums, Climate Change, Intergovernmental Panel on Climate change (The IPCC scientific assessment, Mass, Cambridge 1990).

²⁰⁴World Meteorological Organisation: WMO Greenhouse Gas Bulletin No. 14 | 22 November 2018. https://library.wmo.int/doc_num.php?explnum_id=5455 > accessed 12 December 2018.

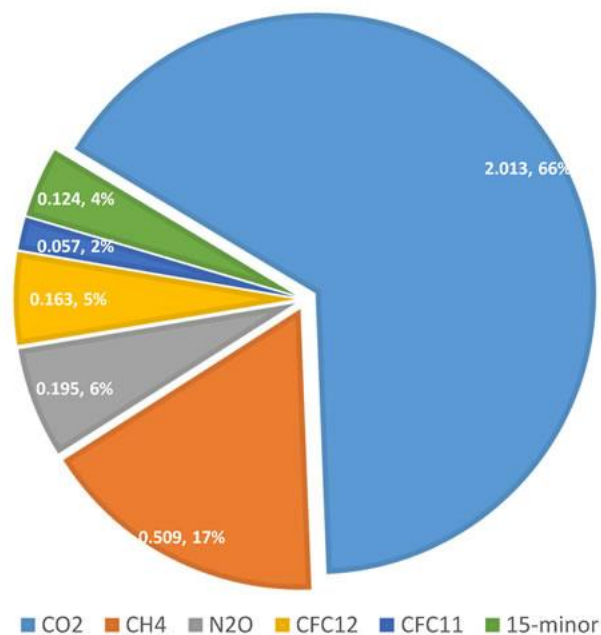
²⁰⁵Convention for the Protection of the Ozone Layer, Vienna Convention Layer on the Protection of the Ozone Layer 1985 available at < <https://www.jus.uio.no/lm/ozone.layer.protection.convention.vienna.1985/portrait.a4.pdf> > accessed 12th March 2018 .

²⁰⁶Montreal Protocol on Substances that Deplete the Ozone Layer (with annex). Concluded at Montreal on 16 September 1987 No. 26369 available at < <https://treaties.un.org/doc/publication/unts/volume%201522/volume-1522-i-26369-english.pdf> > Accessed 12th March 2018.

²⁰⁷ World Meteorological Organisation: WMO Greenhouse Gas Bulletin No. 14 | 22 November 2018, page 6 <https://library.wmo.int/doc_num.php?explnum_id=5455 > accessed 12 December 2018.

²⁰⁸ United States Environmental Protection Agency “Overview of Greenhouse Gases” (26-05-2016) (page numbers unavailable) United States Environmental Protection Agency <https://www3.epa.gov/climatechange/ghgemissions/gases.html> accessed 22nd August 2019.

Figure 2.2. The State of Greenhouse gases in the atmosphere based on the global observations through 2017. ²⁰⁹



It is important to note that the primary cause of the increment of CO₂ is the burning of fossil fuels.²¹⁰ Among all these gases emitted by human activities, the most common, which scientists emphasise, is CO₂.²¹¹ The reason is that the production of CO₂ is rapid, and it retains heat or traps heat in the earth's atmosphere for a longer period, which led to the warming of the whole earth.²¹² As earlier stated in the introduction of this chapter, global surface temperature change for the end of the 21st century is likely to exceed 1.5°C.²¹³ These are some of the evidence

²⁰⁹ Figure 3. The State of Greenhouse gases in the atmosphere based on the global observations through 2017. Copied from World Meteorological Organisation: WMO Greenhouse Gas Bulletin No. 14 | 22 November 2018. https://library.wmo.int/doc_num.php?explnum_id=5455 > accessed 12 December 2018.

²¹⁰ J Houghton and J Ephraums, Climate Change, Intergovernmental Panel on Climate change (The IPCC scientific assessment, Mass, Cambridge 1990, 11.

²¹¹ Ibid.

²¹² Ibid.

²¹³ Ibid 20.

that shows that the world climate is changing,²¹⁴ and human activities helped increase global temperature.

2.4 THE DRIVERS OF CLIMATE CHANGE IN NIGERIA

Climate change is a global issue because all nations contribute to the changing world atmosphere as evidence provides that all nations are carrying out activities like deforestation, urbanization, transportation, burning of fossil fuel.²¹⁵ Though, the contribution of developed nations to the warming of the global atmosphere is far more significant than less developed or developing nations.²¹⁶ The reason is that developed nations are the major players of the Industrial Revolution and, to date, the contribution of a developed nation to the warming of the global atmosphere continues.²¹⁷ Developing nations like Nigeria and other developing countries also contribute to the warming of the global atmosphere.²¹⁸ For instance, Nigeria's emission rate in 2015 is 712,638 Gg CO₂-eq.²¹⁹ This is more than South Africa's emission of GHG, which is estimated at 529 821 Gg CO₂e in 2015.²²⁰ Nigeria's GHG emissions is also more than the United Kingdom (UK), where emission level in 2017 is 455.9 MtCO₂e which is

²¹⁴See Article 2(1) UN General Assembly, United Nations Framework Conference of the Party twenty-first session: resolution/adopted by the General Assembly, 30 November 2015, /CP/2015/L.9/Rev.1 (accessed 4 October 2017).

²¹⁵ Which is why Climate change is being dealt with globally, for example, the United Nations Framework on Climate Change Convention.

²¹⁶ H D Matthews, 'Quantifying historical carbon and climate debts among nations (2016) 6(1) Nature climate change 60.

²¹⁷ L H Meyer, 'Why historical emissions should count' (2012) 13 Chi. J. Int'l L. 597; However, there are arguments that the historical emission of CO₂ cannot be quantified.

²¹⁸D S Ward and NM Mahowald, 'Contributions of developed and developing countries to global climate forcing and surface temperature change (2014) 6(7) Environmental Research Letters 074008.

²¹⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 8.

²²⁰ Republic of South Africa (2018) South Africa's Draft 3 Rd Biennial Update Report to The United Nations Framework Convention On Climate Change, 38 >
https://www.environment.gov.za/sites/default/files/docs/SAdraft3rdbiennialupdatereport_unnfccc2018.pdf>
accessed 29 November 2018.

less than Nigeria.²²¹ It was stated that ‘under a business-as-usual growth scenario,²²² consistent with strong economic growth of 5% per year, Nigeria’s emissions are expected to grow to around 900 million tons per year in 2030.’²²³

Note that these high emissions of GHG in Nigeria are primarily from the following five sectors: agriculture, forestry, and other land use; energy; waste; and industrial process and product.²²⁴

The total GHG emission from each of the sectors is presented in table 1.

Table 2:1 National emissions for the year 2015 in Nigeria.²²⁵

No.	Categories of total national emission from Nigeria	Total Gg CO2-eq	Percentage
1	Agriculture, Forestry and Other Land Use emits	476,949 Gg CO2-eq	66.9%
2	Energy	201,319 Gg CO2-eq	28.2%
3	Waste	21,103 Gg CO2-eq	3.0%
4	Industrial Processes and Product	13,267 Gg CO2-eq	1.9%
5	Other	0	-
7	Total	712,638 Gg CO2-eq	-

From the table above, Agriculture, Forestry and Other Land Use record the highest GHG emission. Activities in this area include but are not limited to modification of landscape,

²²¹ Department for business, energy and industry strategy (2017 UK GREENHOUSE GAS EMISSIONS, PROVISIONAL FIGURES) 8 <<https://www.gov.uk/government/statistics/provisional-uk-greenhouse-gas-emissions-national-statistics-2017>> accessed 24 October 2018.

²²²Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.

²²³ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.

²²⁴ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC). Biennial Reports are reports. Prepared by developing countries to the UNFCCC containing updates of national GHG inventories, including action taken to reduce the emission of GHG.

²²⁵ Total net national emissions (Table 2.51), including removals, amounted to 712,638 Gg CO2-eq Copied from the First Biennial Update Report (BUR1) of the Federal Republic of Nigeria at page 8.

conversion of lands, namely forest, croplands, grassland, wood harvesting²²⁶ and fermentation and, manure management from livestock.²²⁷ The energy sector recorded the second largest emissions of GHG.²²⁸ This sector comprises activities like flaring during oil and gas production.²²⁹ The waste sector is the third largest, emission from waste largely from indiscriminate disposal of solid wastes through landfilling, dumping, incineration, open burning, and treatment of domestic and industrial liquid wastes.²³⁰ The industrial processes and production sector is the fourth in the table. Activities in this sector comprise emission from by-products during industrial processes for the manufacture of new products such as cement production from the mineral industry,²³¹ ammonia production from the chemical industry and iron and steel production from the metal industry.²³² These activities, coupled with the activities around the world, increased the global atmosphere, which has huge consequences worldwide, including in Nigeria.

²²⁶ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 93-101.

²²⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 98.

²²⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 93.

²²⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 56.

²²⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1).

²³⁰ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC).

²³¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 85.

²³² Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC), 85-90.

2.5 THE IMPACTS OF CLIMATE CHANGE IN NIGERIA

The adverse impacts of climate change have been highlighted by the IPCC,²³³ non-government organisations,²³⁴ national government agencies,²³⁵ even the United Nations Human Rights Council.²³⁶ For instance, the 2021 United Nations Human Rights Council's resolution on human rights and climate change states that 'the rights of people in vulnerable situations were disproportionately affected by the negative impact of climate change.'²³⁷ In the same spirit, the African Commission on Human and Peoples' Rights had passed six resolutions of the impacts of climate change on livelihood of the most vulnerable members at the regional level.²³⁸

Again, the 2030 Agenda for Sustainable Development have also reiterated the negative impacts of climate change. It clearly states that 'climate change is one of the greatest challenges of our time and its adverse impacts undermine the ability of all countries to achieve sustainable development.'²³⁹ This means the impacts of climate change affect all nations. However, scientists have proven that the impacts of climate change on developing countries are more

²³³ See section 2.1 Introduction.

²³⁴ Greenpeace <https://www.greenpeace.org.uk/> ; Climate Action Network International <http://www.climateactionnetwork.org/> ; Climate Central <http://www.climatecentral.org/> ; The Climate Group <https://www.theclimategroup.org/>; Centre for International Climate Research <https://www.cicero.oslo.no/en> ; Climate change Performance Index <https://germanwatch.org/en/CCPI> and many more.

²³⁵ United State Environmental Protection Agency available at < <https://www.epa.gov/> > accessed 12 March 2019 ; Department of Energy and Climate Change available at <https://www.gov.uk/government/organisations/department-of-energy-climate-change> > accessed 12 march 2019

²³⁶ The Human Rights Council adopted more than 9 resolutions about the adverse impacts of climate change on Human Rights. See United Nations Human Rights Council Office of the High Commissioner available at [OHCHR | Resolutions](https://www.ohchr.org/en/resolutions) > accessed 30th March 2021.

²³⁷ See [Resolution 47/24](#) (July 2021), UN General Assembly, Resolution adopted by the Human Rights Council on 14 July 2021, A/HRC/RES/47/24. Available at < [A/HRC/RES/47/24 - E - A/HRC/RES/47/24 -Desktop \(undocs.org\)](https://undocs.org/A/HRC/RES/47/24) > Accessed 17th September 2021.

²³⁸ See the 46th Ordinary Session held in November 2009 see 153: Resolution on Climate Change and Human Rights and the Need to Study its Impact in Africa, ACHPR/Res.153 (XLVI) 09 <http://www.achpr.org/sessions/46th/resolutions/153/> accessed 9th March 2019; the 55th Ordinary Session held in 2014 see 271: Resolution on Climate Change in Africa ACHPR/Res.271 (LV) 14 <http://www.achpr.org/sessions/55th/resolutions/271/> accessed 9th March 2019 ; the 58th Ordinary Session, held in April 2016 see 342: Resolution on Climate Change and Human Rights in Africa - ACHPR/Res. 342(LVIII) 2016. <http://www.achpr.org/sessions/58th/resolutions/342/> accessed 9th March 2019.

²³⁹ See Paragraph 14 of the UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018).

severe than developed nations.²⁴⁰ This is because most developing countries lack the capacity to address the impacts of climate change.²⁴¹ This suggests that most developing countries are at a greater risk of the severe impacts of climate change. For instance, in Nigeria, the impacts of climate change have already been seen and felt in different sectors. This includes but are not limited to the economy,²⁴² the environment,²⁴³ tourism, and recreational activities.²⁴⁴ It is also a well-known fact that the impacts of climate change are presently causing a violent conflict between farmers and herders.²⁴⁵ Describing the impacts of climate change, the Nigerian President, in his 2019 address to the joint session of the National Assembly, summarised the impacts of climate change in Nigeria. In his words:

[W]e have not lost sight of the adverse impact climate change has to our economy, food and national security agenda. The recent floods, farmer-herdsmen conflict and aggressive desertification are all effects of climate change. We have seen our forests, lakes, arable land, and grazing areas gradually disappear over the decades.²⁴⁶

The discourse of the impacts of climate change cannot be exhausted in a chapter. There are several reports, academic textbooks, and journal articles regarding the impacts of climate

²⁴⁰ R.T Watson and R.H Moses 'The regional impacts of climate change: an assessment of vulnerability' (eds Cambridge University Press 1998) 88 ; U Etiosa, 'The Changing Climate and the Niger Delta' (2016), Community Research and Development Centre (CREDC), Nigeria; Kurukulasuriya and N Robinson, UNEP Training Manual on International Environmental Law' (United Nations Environment Programme Nairobi 2006)111; R.T Watson and R.H Moses 'The regional impacts of climate change: an assessment of vulnerability' (eds Cambridge University Press 1998) 88-87.

²⁴¹ Building Nigeria's Response to Climate change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) 3.

²⁴² Z A Elum and J B Simonyan, J.B., 2016. 'Analysis of Nigerian insurers' perceptions of climate change (2016) 19(4) South African Journal of Economic and Management Sciences 549-561.

²⁴³ See generally Building Nigeria's Response to Climate change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011).

²⁴⁴ O J Oladokun and T M Adedara, 'Tourism and Climate Change: combating climate change Effects on Tourism Participation in Nigeria' (2015) 5 Journal of Tourism, Hospitality, and Sports 1-5.

²⁴⁵ G Odogwu, 'Climate change and Fulani herdsmen-farmers' clashes (Punch Newspaper 2018) > <http://punchng.com/climate-change-and-fulani-herdsmen-farmers-clashes/>> Accessed 12 March 2018 ; C Cabot, 'Climate Change, Security Risks, and Conflict Reduction in Africa (2015) Springer-Verlag Berlin and Heidelberg GmbH & Company K. 113-155.

²⁴⁶ Channels Television, 'President Buhari's Full Speech at Presentation Of 2019 Budget Proposal' (Updated December 19, 2018) paragraph 26.

change in Nigeria.²⁴⁷ The purpose of this segment²⁴⁸ is not to critique the findings of the impacts of climate change in Nigeria but to show how the impacts of climate change would undermine the Nigerian government's ability to eradicate poverty, hunger, which are the key indicators of SDG target 1.1 eradicate extreme poverty for all people. SDG target 2. 1 end hunger, especially the poor and people in a vulnerable situation, and many more. For clarity, this segment focuses on the impacts of climate change on the environment, agriculture, and society in Nigeria.

2.5.1 THE IMPACTS OF CLIMATE CHANGE ON THE ENVIRONMENT OF NIGERIA

The adverse impacts of climate change affect the environment in different ways. For instance, the rising sea levels²⁴⁹ may affect Nigeria especially, the coastal areas in the country.²⁵⁰ The coastal areas are densely populated; about 28,856,000 million people are presently living in these areas.²⁵¹ This is about 25% of the country's population.²⁵² These areas are swampy and deltaic in nature.²⁵³ In other words, the coastal areas of Nigeria are low land areas.²⁵⁴ It was recorded that this area is just '2 m above the sea level'²⁵⁵ and '[a] metre rise in sea level will displace about 14 million people from these areas.'²⁵⁶ A recent study funded by the Department

²⁴⁷F Engelbrecht and C Gatebe, 'Projections of rapidly rising surface temperatures over Africa under low mitigation 2015 10(8) Environmental Research Letters 085004; U Etiosa, 'The Changing Climate and the Niger Delta' (2016), Community Research and Development Centre (CREDC), Nigeria (add write other authors to this.
²⁴⁸The impacts of climate change in Nigeria.

²⁴⁹ Ibid 11; Greenpeace, 'Droughts, cyclones, floods and other extreme weather (Greenpeace 2016)' available at > <http://www.greenpeace.org/international/en/campaigns/climate-change/impacts/Extreme-weather/>> Accessed 10 October 2017.

²⁵⁰ The coastal areas of Nigeria are the southern part of the country, most times it is referred to as the Niger Delta; C O Ogba and P B Utang, 'Vulnerability and Adaptations of Nigeria's Niger Delta Coast Settlements to Sea-Level Rise (2007) Strategic Integration of Surveying Services. FIG Working Week. region.

²⁵¹ The federal republic of Nigeria, (Niger Delta Regional Development Master Plan 2006) 50.

²⁵² Building Nigeria's Response to Climate change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) 16.

²⁵³ Ibid.

²⁵⁴ Ibid 4.

²⁵⁵ Ibid 4.

²⁵⁶ P Akpodigaga and O Ovuoyovwiroye, 'General overview of Climate change impacts in Nigeria' (2010) 29(1) Journal of Human Ecology 47-55 at 50; V.A Solomon and O.D Akpan 'Impacts of Climate Variability on Wetland and Fishing Households in the Niger Delta Region, Nigeria' (2015) 7(3) Asian Journal of Agricultural Extension, Economics & Sociology 1-9.

of Foreign Institute Development (DFID) predicts a possible sea level rise from ‘1990 levels to 0.3 m by 2020 and 1m by 2050, and a rise in temperature of up to 3.2°C by 2050 under a high climate change scenario’.²⁵⁷ The DFID report shows that sea level rise of 1m could result in a loss of 75% of the coastal areas of Nigeria.²⁵⁸ This signifies that those living in the coastal areas of Nigeria are facing a time bomb.

The impacts of climate change also result in heavy rainfall.²⁵⁹ This also has significant impacts on the coastal areas of Nigeria.²⁶⁰ According to the Nigerian Meteorological Agency, the total annual rainfall in the coastal area increased by 2-4 mm.²⁶¹ Heavy rainfall would lead to a distortion of the quality of the water.²⁶² Not only the quality of water is in jeopardy, but heavy rainfall also leads to the washing away of the topsoil, animal wastes, and other pollutants, which increase the volume of the rivers and lakes and possibly make them unusable.²⁶³ Also, heavy rainfalls to coastal areas could cause heavy flooding, which may threaten the residents. In 2010, the Nigerian National Emergency Management Agency (NEMA) reported that over 250,000 Nigerians were displaced by flood disasters that ravaged many communities across

²⁵⁷ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria. 20-40; this piece contains a detailed report on the policies, institutional framework, adaptation methods and vision 2020 for the purpose of combating climate change.

²⁵⁸Ibid.

²⁵⁹Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment, at 5 and 6; O D Hoegh-Guldberg and G. Zhou, 2018: Impacts of 1.5°C Global Warming on Natural and Human Systems. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (eds. 2018 In Press) at 197 and 204.<[oscola 4th edn hart 2012quickreferenceguide.pdf \(ox.ac.uk\)](#) > Accessed 11th September 2021.

²⁶⁰Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment

²⁶¹ Building Nigeria’s Response to Climate change (BNRCC), ‘National Adaptation Strategy and Plan of Action on Climate change For Nigeria (NASPA-CCN) (2011) 7.

²⁶²United State Environmental Protection Agency, ‘Climate Impacts on Coastal Areas’> <https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-coastal-areas.html#ref2>>Accessed 23 February 2018.

²⁶³ Ibid.

the country.²⁶⁴ In Akwa Ibom state, one of the major coastal states in Nigeria, experienced heavy rainfalls, leading to the total submerge of about four local streams.²⁶⁵

Climate change also affects fishing activities in the coastal part of Nigeria.²⁶⁶ Fishing activities in Nigeria are a primary livelihood for those living on the coast.²⁶⁷ Ikehi and Zimoghen state that '[a]n estimated 50% of fishes consumed in Nigeria come from the Niger Delta region.'²⁶⁸ However, many fish species in the Delta area are becoming endangered and extinct due to climate change.²⁶⁹ Investigation has shown that many fishes have shifted from their original habitats, which have made fishers travel longer distances.²⁷⁰ Environmental Protection Agency (EPA) revealed that fishes are found in colder areas of the stream than warmer areas.²⁷¹ This means fishes are moving away from the warmer areas as a result of the intensity of heat. The implication is that it could increase competition for food in those new much colder areas.²⁷²

²⁶⁴ Building Nigeria's Response to Climate change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate change For Nigeria (NASPA-CCN) (2011) 31.

²⁶⁵N.E Ebele and N.V Emodi, 'Climate change and Its Impact in Nigerian Economy' (2016) 10(6) *Economy Journal of Scientific Research & Reports* 1-13; Building Nigeria's Response to Climate change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) 2.

²⁶⁶ M.E Ikehi and J Zimoghen, 'Impacts of Climate change on fishing and fish farming in Niger Delta Region of Nigeria' (2015) 3(1) *Direct Res. J. Agric. Food Sci*,1-6; V.A Solomon and O.D Akpan 'Impacts of Climate Variability on Wetland and Fishing Households in the Niger Delta Region, Nigeria' (2015) 7(3) *Asian Journal of Agricultural Extension, Economics & Sociology* 1-9.

²⁶⁷A A Idowu and N B Ikenweije, N.B 'Impact of Climate change in Nigeria (2011) 2(2) *Iranica Journal of Energy & Environment*145-152.at 147.

²⁶⁸ The coastal areas are most times referred to Niger Delta: M E Ikehi and J Zimoghen, 'Impacts of Climate change on fishing and fish farming in Niger Delta Region of Nigeria (2015) 3(1) *Direct Res. J. Agric. Food Sci* 1-6.

²⁶⁹ This is the exact prediction of the IPCC when it commends that 'Due to projected Climate change by the mid-21st century and beyond, global marine-species redistribution and marine-biodiversity reduction in sensitive regions will challenge the sustained provision of fisheries productivity and other ecosystems'; K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability. Vol 1* Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 51.

²⁷⁰ M.E Ikehi and J Zimoghen, 'Impacts of Climate change on fishing and fish farming in Niger Delta Region of Nigeria' (2015) 3(1) *Direct Res. J. Agric. Food Sci*,1--6.

²⁷¹United State Environmental Protection Agency, 'Climate Impacts on Coastal Areas'> <https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-coastal-areas.html#ref2>>Accessed 23 February 2018.

²⁷²United State Environmental Protection Agency, 'Climate Impacts on Coastal Areas'> <https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-coastal-areas.html#ref2>>Accessed 23 February 2018.

Between 2004- 2008, a decline in fisheries was recorded by 0.85-0.45 metric tons.²⁷³ However, the decrease of fish stock may not be entirely the effect of climate change as the coastal area of Nigeria is already facing other environmental challenges²⁷⁴ such as crude oil pollution,²⁷⁵ overfishing²⁷⁶ without a concrete plan for replacement.²⁷⁷

Aside from sea level rise and rainfall discussed above, climate change also reduces surface water.²⁷⁸ This significantly affects the Northern part of the country. For instance, between the periods of 1941 to 2000, the average temperature rose by 1.4-1.9.0C²⁷⁹ and a decrease in rainfall by 2-8 mm in the Northern part of the country.²⁸⁰ One of the consequences of this is that it makes the affected area become drier.²⁸¹ A good example is Lake Chad in the North; Lake Chad is a transboundary natural reserve that cuts across four countries.²⁸² The

²⁷³AA Idowu and NB Ikenweije, N.B 'Impact of Climate change in Nigeria (2011) 2(2) Iranica Journal of Energy & Environment 145-152 at 147.

²⁷⁴ Uyigüe and M Agho, 'Coping with Climate change and environmental degradation in the Niger Delta of southern Nigeria' (2007) Community Research and Development Centre Nigeria (CREDC) 24-27 ; Also available on: <http://www.global-greenhouse-warming.com/climate-change-in-Niger-Delta.html>> accessed 07 October 2017; 'Environmental Assessment of Ogoniland' (United Nation Environmental Programme 2011) 20<<http://www.unep.org/>> accessed 12 December 2018

²⁷⁵Ibid.

²⁷⁶'Environmental Assessment of Ogoniland' (United Nation Environmental Programme 2011) 20 <<http://www.unep.org/>> accessed 12 December 2018.

²⁷⁷ Federal Ministry of Environment, Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 20.

²⁷⁸Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment

²⁷⁹Building Nigeria's Response to Climate change (BNRCC), 'National Adaptation Strategy and Plan of Action on Climate change For Nigeria (NASPA-CCN) (2011) 8.

²⁸⁰ Ibid 7.

²⁸¹P Akpodiogaga and O Ovuyovwiroye, 'General overview of Climate change impacts in Nigeria' (2010) 29(1) Journal of Human Ecology 47-55; in this article the author did a detailed analysis of the figures published by Nigeria meteorologists from a period of (1901-2005), that is 105 years, that there is an increase in the temperature by 1.10C and decrease in rain fall of Nigeria by 81 mm as a result of climate change: the problem with this write up is that the general overview of Climate change appears to have questionable, this is so because Climate change in the northern region is not the same as the southern part of the country. The impact of Climate change in the northern part is always different from the southern part. Though in the concluding part of the article he said that there is an increase of rainfall in the southern part of the country. In this manner, Akinsanola and Ogunjobi said the temperature has increased; A A Akinsanola, and K. O. Ogunjobi. 'Analysis of rainfall and temperature variability over Nigeria' (2014) Global Journal of Human-Social Science Research; P A Odjugo, 'Climate change and global warming: The Nigerian Perspective (2011) 1(1) Journal of Sustainable Development and Environmental Protection 6-17.

²⁸² E Massawa, Guidebook: addressing climate change challenges in Africa: a practical guide towards sustainable development (2011) 49-50.

watercourse provides both freshwaters for drinking and agricultural purposes. Apart from this, many people living close to the basin carry out fishing activities and cultural practices. It was estimated that in 2003 about 20 million people are directly benefiting from the basin: out of the 20 million, about 11.7 million are Nigerians.²⁸³ Today, this lake which supports economic livelihoods for its multiple users, has been affected by climate change.²⁸⁴ Lake Chad has already ‘lost over 50 percent of its water between 1973 and 2002.’²⁸⁵ The consequence of the rapid loss of the surface water of Lake Chad resulted in the loss of vegetation, reduction of fish stock, and chronic poverty in the area.²⁸⁶ Clearly, this is against SDG target 1.1, which states that member states should ‘eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day by 2030.’²⁸⁷

2.5.2 THE IMPACTS OF CLIMATE CHANGE ON AGRICULTURE IN NIGERIA

The agricultural sector is important to Nigeria; this is so because most rural communities in Nigeria rely on subsistence farming for livelihood.²⁸⁸ Aside from subsistence farming and food production, the agricultural sector has employed over 70% of the Nigerian population.²⁸⁹ In 2016 alone, Nigeria’s total export foreign earnings amount to 4.8%,²⁹⁰ and the GDP of the

²⁸³Ibid.

²⁸⁴Lemoalle and A Sedick, ‘Recent changes in Lake Chad: Observations, simulations and management options (1973–2011) 2012 (80) *Global and Planetary Change* 247-254.

²⁸⁵F C Onuoha, ‘Environmental degradation, livelihood, and conflicts: a focus on the implications of the diminishing water resources of Lake Chad for north-eastern Nigeria (2008) 8(2) *African journal on conflict resolution* 35-61; Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 5

²⁸⁶E Massawa, *Guidebook: addressing climate change challenges in Africa: a practical guide towards sustainable development* (2011) 50.

²⁸⁷UN General Assembly, *transforming our world: the 2030 Agenda for Sustainable Development*, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018]

²⁸⁸Ibid 24.

²⁸⁹Federal Ministry of Environment Abuja, Nigeria (Special climate change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 24

²⁹⁰Ibid.

agricultural sector accounted for 24.4 in 2016.²⁹¹ As important as this sector to the whole of the country, climate change poses a threat to the agricultural sector.

It has been proven that Nigeria relies on rain-fed agriculture, which is prone to fluctuations due to climate change.²⁹² A decrease in rainfall will lead to drought and a decrease in surface water, especially in the Northern part of the country.²⁹³ This will lead to low production. As rightly noted by Nigeria's Intended Nationally Determined Contribution (INDC), 'Under a business-as-usual scenario, agricultural productivity could decline between 10 to 25 per cent by 2080. In some parts of the north, the decline in yield in rain fed agriculture could be as much as 50 percent'.²⁹⁴ The implication is that it will lead to a 4.5% reduction of GDP by 2050; this will result in loss of income and livelihoods, aggravate poverty for over 90 million households engaged in subsistence farming.²⁹⁵ This trend could also affect the achievement of SDG 2, which enjoined members of the United Nations to 'End hunger, achieve food security and improved nutrition and promote sustainable agriculture.' SDG target 2.3 specifically points out that by 2030 members should 'double the agricultural productivity and incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers.' The looming climate change in Nigeria threatens these targets of the SDGs.

²⁹¹Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 29; 'Transforming Nigeria's Agricultural Value Chain, A case study of the Cocoa and Dairy industries' (2016) www.pwc.com/ng.

²⁹²Federal Ministry of Environment, Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 9.

²⁹³Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.

²⁹⁴ Ibid 4 and 5.

²⁹⁵'Department of Climate Change Federal Ministry of Environment' < <http://climatechange.gov.ng/climate-smart-agriculture/>> accessed 20th May 2018.

Again, extreme weather because of climate change has proven to have a negative impact on crops like wheat and maize production.²⁹⁶ The IPCC remarked that a local temperature increase of more than 1°C would reduce yields for the major crops such as wheat, rice, and maize in tropical and temperate regions.²⁹⁷ The implication of this is that it could accelerate the increment of market prices of food across the country. This position was also affirmed by Efe, who investigates the impacts of climate change in Port-Harcourt- a city in Nigeria from the period of 1950-2015.²⁹⁸ The findings of Efe reveal that the impact of climate change has affected food prices in the southern part of the country.²⁹⁹ According to him, the rising temperature and changes in rainfall patterns have affected agricultural production, which has doubled the prices of most of the commodities in the affected areas.³⁰⁰ This may threaten SDG target 2:c, which encourages members to adopt measures to ‘limit extreme food price volatility.’

2.5.3 THE SOCIAL IMPACTS OF CLIMATE CHANGE IN NIGERIA

The social impacts of climate change are described as those that directly impact people's physical and emotional well-being and the health status of residents.³⁰¹ Under section 2.5.3, the following social impacts of climate change are discussed viz; the impacts of climate change on

²⁹⁶ Irregular rainfall and sunshine have said to have reduced the production of rice, maize, cassava, melon sorghum, and yam to least 2.5 % per annum See S.O Opele and NB Ikenweiwe, 2011. ‘Impact of Climate change in Nigeria (2011) 2 (2) Iranica Journal of Energy & Environment, 2(2)145-152.

²⁹⁷ K Munro, ‘ The Right Climate for Development, why the SDGs must act on climate change’ (Greenpeace 2014); V.A Solomon and O.D Akpan ‘Impacts of Climate Variability on Wetland and Fishing Households in the Niger Delta Region, Nigeria’ (2015) 7(3) Asian Journal of Agricultural Extension, Economics & Sociology 1-9; T.C Nzeadibe and V.C Agu ‘Climate change awareness and adaptation in the Niger Delta Region of Nigeria’ (2011) African Technology Policy Studies Network, Nairobi; Under a business-as-usual scenario, agricultural productivity could decline between 10 to 25 percent by 2080. In some parts of the north, the decline in yield in rain-fed agriculture could be as much as 50 percent.

²⁹⁸ S I Efe and V.E Weli, ‘Economic impact of Climate change in Port Harcourt, Nigeria’ (2015) 3(03) Open Journal of Social Sciences 57; The authors concluded that there is an increase in the temperature and increase in rainfall which affects the price of goods in the city of Port-Harcourt.

²⁹⁹ Ibid.

³⁰⁰ Ibid 8.

³⁰¹ R Gasper and M Ruth, ‘Social and economic impacts of climate change on the urban environment 2011 (3) 3 Current Opinion in Environmental Sustainability, 150-157 at 150.

human health, the impacts of climate change on the standard of living, and inequality created by the impacts of climate change.

2.5.3.1 CLIMATE CHANGE IMPACTS ON HUMAN HEALTH

The IPCC Fifth Assessment Report acknowledged that human ill health due to the direct impact of climate change is relatively small compared to the impact of climate change on the environment.³⁰² However, it has been proven that there are heat-related mortalities in some regions, like Africa, due to the changing climate.³⁰³ It has been said that certain people may be drastically affected by the increasing temperature in the region, for instance, those who are outdoor workers and homeless people.³⁰⁴ It is common that most Nigerians are low-income earners, and many are left in the street begging for alms due to poverty.³⁰⁵ The point is that the elderly and the young who are exposed to heat will be negatively affected by climate change. The World Health Organisation (WHO) report affirmed this position about the heat mortality rate of both the young and the elderly in Nigeria. The WHO report projected that heat-related mortality in Nigeria especially the ‘elderly (65+ years), increases to almost 80 deaths per 100,000 by 2080.’³⁰⁶

³⁰² K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability*. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 6.

³⁰³ I Niang and P Urquhart, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Part B: Regional Aspects. The contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Cambridge University Press, Cambridge, United Kingdom, and New York, NY, USA. 1199-1265, 1224; United State Environmental Protection Agency, ‘Climate Impacts on Human Health’> https://19january2017snapshot.epa.gov/climate-impacts/climate-impacts-human-health_.html#ref1>Accessed 13 February 2018; K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability*. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 6.

³⁰⁴ Ibid.

³⁰⁵ Ibid.

³⁰⁶World Health Organisation ‘Climate and Health Country Profile – 2015 Nigeria’< http://apps.who.int/iris/bitstream/handle/10665/208865/WHO_FWC_PHE_EPE_15.11_eng.pdf;jsessionid=610C7FC8BE329C653D42E61D7FEECEC0?sequence=1> Accessed 01 March 2018; E P Omoruyi and O A Kunle, 2008. Effects of climate change on health risks in Nigeria (2008) 1(1) *Asian Journal of Business and Management Sciences*,204-215; ‘Climate Change: Threatening the Health of Nigerians’ (This Day News Paper November 6,

Apart from heat-related ill health attributed to climate change, the WHO assessment of child mortality relating to climate change in Nigeria states that ‘under a high emissions scenario, diarrhoeal deaths attributable to climate change in children under 15 years old are projected to be about 9.8% of the over 76,000 diarrhoeal deaths projected in 2030. Although diarrhoeal deaths are projected to decline to approximately 43,500 by 2050, the proportion of deaths attributable to climate change will rise to approximately 14.2%.³⁰⁷ The point is that SDG 3 target instructed members to ‘[e]nsure healthy lives and promote well-being for all at all ages.’ With the data provided above, there is no doubt that the Nigerian government will be struggling to fulfil its obligations by protecting the health of its citizens due to climate change.

2.5.3.2 IMPACTS OF CLIMATE CHANGE ON THE STANDARD OF LIVING

Another fundamental issue is the impact of climate change on the living standard of the people. The indicators of living standards are said to include long and healthy life,³⁰⁸ the availability of water and food, and many others.³⁰⁹ The wide impacts of climate change in Nigeria have influenced the standards of living. For instance, it was predicted that climate change would reduce renewable surface and groundwater resources, mainly in dry subtropical regions.³¹⁰ That

2016) < <https://www.thisdaylive.com/index.php/2016/11/25/climate-change-threatening-the-health-of-nigerians/>> Accessed 5 March 2018.

³⁰⁷Ibid.

³⁰⁸N Birciaková and V Antosová, ‘evaluating living standard indicators (2015) 6 (3) DANUBE: Law, Economics and Social Issues Review, 175-188 at 183.

³⁰⁹See the right to adequate stand of living. These rights are guaranteed by the International Covenant on Economic, Social and Cultural Rights. See Art 11 and 12 of the UN General Assembly, International Covenant on Economic, Social and Cultural Rights, 16 December 1966, United Nations, Treaty Series, vol. 993, p. 3, available at <http://www.refworld.org/docid/3ae6b36c0.html> [accessed 25 April 2018] ; See Article 24, of the African Charter on Human Peoples' Rights, see Organization of African Unity (OAU), African Charter on Human and Peoples' Rights ("Banjul Charter"), 27 June 1981, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), available at <http://www.refworld.org/docid/3ae6b3630.html> [accessed 1 July 2018]. See Chapter II of the 1999 Constitution of the Federal Republic of Nigeria as Amended; Article 24, of the African Charter on Human Peoples' Rights, see Organization of African Unity (OAU), African Charter on Human and Peoples' Rights ("Banjul Charter"), 27 June 1981, CAB/LEG/67/3 rev. 5, 21 I.L.M. 58 (1982), available at <http://www.refworld.org/docid/3ae6b3630.html> [accessed 1 July 2018].

³¹⁰K Mach and M Mastrandrea, Climate change 2014: impacts, adaptation, and vulnerability. Vol 1 Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014).

at the end of 21-century drought may increase, which may increase the water struggle for those living in those regions.³¹¹ This prediction is already happening as the northern part of Nigeria is presently experiencing drought, desertification, and others.³¹² These factors have caused nomads, popularly known as Fulani widening their search for water and pastures for their livestock.³¹³ This wide search due to climate change has led to the Fulani trespassing onto local farming communities.³¹⁴ This and other factors have led to a severe conflict between the nomads and farmers in Nigeria.³¹⁵ This conflict has resulted in violence, injury and death. According to Amnesty International's report, 'since January 2018 at least 1,813 people have been murdered in 17 states, which is double the 894-people killed in 2017.'³¹⁶ Also, the fear of further killing has threatened several people living within the affected areas. This has caused a huge migration. The number of internally displaced people has risen to about 80, 000 just in one state among several states in the northern part of the country.³¹⁷ The president of Nigeria released a statement that climate change is directly related to the farmers and the herders' crisis in the northern part of the country, which has claimed several lives.³¹⁸ This is similar to the Darfur region of western Sudan, where the cause of the conflict was attributed to climate

³¹¹ Ibid 14.

³¹² A Nyong and C Fiki, 2005, June. 'Drought-related conflicts, management and resolution in the West African Sahel (2005) In an international workshop on Human Security and Climate Change, Oslo 716-735).

³¹³ Adigun, O., 2019. A Critical Analysis of the Relationship Between Climate Change, Land Disputes, and the Patterns of Farmers/Herdsmen's Conflicts in Nigeria. A Critical Analysis of the Relationship Between Climate Change, Land Disputes, and the Patterns of Farmers/Herdsmen's Conflicts in Nigeria, (2019) 15(3) 76-89; G Odogwu, 'Climate change and Fulani herdsmen-farmers' clashes (Punch Newspaper 2018) > <http://punchng.com/climate-change-and-fulani-herdsmen-farmers-clashes/>> Accessed 12 March 2018.

³¹⁴ Ibid, A Nyong and C Fiki, 2005, June. 'Drought-related conflicts, management and resolution in the West African Sahel (2005) In an international workshop on Human Security and Climate Change, Oslo 716-735).

³¹⁵ O W Adigun, 'A Critical Analysis of the Relationship Between Climate Change, Land Disputes, and the Patterns of Farmers/Herdsmen's Conflicts in Nigeria. Canadian Social Science, (2019) 15(3),76-89 at 78-79 G Odogwu, 'Climate change and Fulani herdsmen-farmers' clashes (Punch Newspaper 2018) > <http://punchng.com/climate-change-and-fulani-herdsmen-farmers-clashes/>> Accessed 12 March 2018.

³¹⁶ R Mutum ' Insecurity: Over 1,800 killed in six months – Amnesty' (Daily Trust Newspaper July 2018) available at> <https://www.dailytrust.com.ng/insecurity-over-1-800-killed-in-six-months--amnesty-258625.html>>Accessed first July 2018.

³¹⁷'Benue Killings: 80,000 internally displaced persons registered' (Premium Time News Paper January 10, 2018) > <https://www.premiumtimesng.com/news/headlines/255073-benue-killings-80000-internally-displaced-persons-registered.html>> accessed February 20, 2018.

³¹⁸ VE Lekwot and M K Balasom, Climate Change and Its Effect on National Security in Nigeria (2014) 2(4) International Journal of Interdisciplinary Research and Innovation 6-10, 8; 9

change.³¹⁹ The same circumstance was recorded in farmer–herder conflicts in Burkina Faso, Côte d’Ivoire, and Ghana.³²⁰ The point is that the continuous experience of drought, desertification and the killings related to climate change will likely affect Nigeria's living standard.

2.5.3.3 CLIMATE CHANGE AND INEQUALITY

‘[T]he gap between the rich and the poor may be a worldwide problem, but in Nigeria, the scale of inequality is extreme.’³²¹ It was stated that more than half of the Nigerian population is grappling with poverty.³²² In late 2018, Nigeria was rated among the poorest countries in the world.³²³ This suggests that there is an existing extreme inequality between the rich and the poor in Nigeria. The poverty-climate change-nexus, which is one of the major concerns of developing countries, is that climate change will exacerbate the existing inequality between the poor and the rich.³²⁴ This is because the poor are unable to access technology required to adjust the impact of climate change, such as drought resistance crops, electricity, adjustment of livelihood etc.³²⁵

³¹⁹E Massawa, Guidebook: addressing climate change challenges in Africa: a practical guide towards sustainable development (AMCEN 2011).

³²⁰C Cabot, ‘Climate Change, Security Risks, and Conflict Reduction in Africa (2015) Springer-Verlag Berlin and Heidelberg GmbH & Company K. 113-155.

³²¹ Oxfam International, ‘Inequality In Nigeria Exploring the Drivers’ (Oxfam International May 2017) 9 available at > https://www-cdn.oxfam.org/s3fs-public/file_attachments/cr-inequality-in-nigeria-170517-en.pdf > accessed 7th September 2019 .

³²² Ibid.

³²³‘Nigeria overtakes India as world’s poverty capital — Report’ (Vanguard Newspaper June 2018) available at <https://www.vanguardngr.com/2018/06/nigeria-overtakes-india-as-worlds-poverty-capital-report/Federal> >accessed 22nd June 2018; Ministry of Environment Nigeria (Great Green Wall for The Sahara And Sahel Initiative (2012) National Strategic Action Plan 16.

³²⁴J Demetriades and E Esplen, 2010. ‘The gender dimensions of poverty and climate change adaptation. Social dimensions of climate change (2010) Equity and vulnerability in a warming world,133-144 at 134; There is also inequality between men and women created by the impact of climate change (gender inequality). See See UNEP report; C Nellemann and L Hislop, Women at the frontline of climate change: Gender risks and hopes. A Rapid Response Assessment. (eds). 2011 United Nations Environment Programme, GRID-Arendal.

³²⁵L W Garmer, Overview of linkages between gender and climate change, 2012 United Nations Development Programme at 12 available >https://gest.unu.edu/static/files/tm1_africa_genderclimatechange_overview.pdf > accessed 7 September 2019 .

It is evident that most people who will suffer the impacts of climate change are the poor.³²⁶ As highlighted earlier, most subsistence farming activities are being carried out by the poor.³²⁷ In the Northern Region of the country, most of the people living in the rural areas that are potentially prone to desertification are the poor.³²⁸ In the Southern part of the country, especially the coastal areas, the majority of the people living in the suburbs are the poor.³²⁹ These are the set of people prone to the rising sea, storm surge, and flooding.³³⁰ It is the poor that is most exposed to the sun than the rich. It is the poor that cannot buy houses.³³¹ To this end, the IPCC is on point when it says, ‘people who are socially, economically, culturally, politically, institutionally, or otherwise marginalized are especially vulnerable to climate change.’³³² Again, the IPCC’s further prediction of the impact of climate change at the end of 21 century states that throughout the 21st century, the impact of climate change may increase the rate of poverty and inequality in developing countries.³³³ It may slow down economic growth. It may also erode food security.³³⁴ This means that in a country like Nigeria, where the poverty rate is high, the impact of climate change may create additional pockets of poverty which could escalate the suffering of the people. This may make things more difficult for the government to tackle poverty and hunger. So, the question is, what will become of the promises of an adequate standard of living, the SDGs, where countries including Nigeria pledged to end hunger and poverty by 2030.

³²⁶A Nyong and C Fiki, ‘June. Drought-related conflicts, management and resolution in the West African Sahel’ (2005) In an international workshop on Human Security and Climate Change, Oslo 716-735

³²⁷ Ibid.

³²⁸ Ibid.

³²⁹ Ibid.

³³⁰ This does not mean that flood will not affect the rich. However, the rich people will have options to move out from the area.

³³¹ ‘Climate change will affect certain groups more than others, particularly groups located in vulnerable areas and the poor, young, old, or sick. Cities are uniquely sensitive to many impacts, especially extreme weather impacts. Climate’ K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability. Vol 1* Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014).

³³²K Mach and M Mastrandrea, *Climate change 2014: impacts, adaptation, and vulnerability. Vol 1* Eds. Christopher Field, and Vicente Barros. (Cambridge and New York: Cambridge University Press 2014) 13.

³³³ Ibid 20.

³³⁴ Ibid.

2.6 KEY FINDINGS AND CONCLUSION

The above discourse has shown the following; first, five sectors emit GHG in Nigeria. Among these sectors, Agriculture, Forestry, and Other Land Use and energy recorded the highest emissions in Nigeria. This indicates that the Nigerian government needs to prioritise mitigation and adaptation measures targeting these two sectors using existing laws and policies.

Second, the warming climate has negative impacts on the global, regional, and national levels, including Nigeria. The consequences of the impacts are devastating. For instance, the high temperature has led to a severe drought in the country, not only that surface water is drying up, including lakes. The result of this is that the affected people will struggle for water, crop production will be affected, and farmers will search for water to survive. This may cause massive migration. When people migrate in search of water and farmers with their animals, the result would be overcrowding of cities with a high competition of the available water. This may create a water crisis in the whole of the country.

Third, the impacts of climate change may likely threaten few SDGs, such as goals 1, 2, and 3, which intend to end poverty, hunger, food security, and the well-being of Nigerians. Not only the impacts of climate change may likely affect the SDGs, but it may also affect the living standards of the people. As discussed above, Nigeria is already struggling with poverty, hunger, and different forms of crises, especially the farmers and cattle owners discussed above. The adverse impacts of climate change have aggravated these already existing problems in the country.

More importantly, the above discourse has also shown that the full impacts of climate change are yet to be seen. The DFID funded report predicts that 1m rise of sea levels could cause

flooding in the coastal part of Nigeria, and it may affect several people.³³⁵ When there is flooding, farming activities will be interrupted; people will lose their jobs and homes, diseases will spread, infrastructural development will rapidly slow down, migration of people from the affected areas will increase. This means climate change is not just an environmental issue, but it is a threat to the economy, sustainable development, and human rights.

Do these climatic impacts and vulnerabilities push the Nigerian government to take immediate action at the national level to fight climate change? The simple answer is yes, which is why the Nigerian government has made commitments under the climate change regime, especially, the Paris Agreement to combat the consequences of climate change at the national level. Therefore, chapter 3 will critically examine the international legal obligations impose on the Nigerian government to address climate change.

³³⁵ Federal Ministry of Environment Abuja, Nigeria (Special climate change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 30.

CHAPTER 3

INTERNATIONAL LEGAL FRAMEWORK OF CLIMATE CHANGE: PRINCIPLES AND LEGAL OBLIGATIONS OF NIGERIA

3.1 INTRODUCTION

The foundation of the international legal climate change regime was triggered by the scientific knowledge of the consequences of climate change.³³⁶ There are relatively few legal international instruments available in the fight against the consequences of climate change.³³⁷

The key instruments internationally adopted to cut down the emissions of GHG and the fight against the adverse impacts of climate change are the United Nations Framework Convention on Climate Change (UNFCCC) 1992,³³⁸ the Kyoto Protocol 1997,³³⁹ and the Paris Agreement 2015.³⁴⁰ Under the Paris Agreement, Parties to the agreement, including Nigeria, made Nationally Determined Contribution (NDC) to cut down GHG emissions at the national level.³⁴¹ Nigeria pledged to cut down 45% GHG emissions by 2030, focusing on energy and the forest sectors.³⁴²

³³⁶ D Bodansky and L Rajamani, 'The Evolution and Governance Architecture of the Climate Change Regime' (2013) (2) SSRN 5-8; D Klein and A Higham, *The Paris Agreement on climate change: Analysis and commentary* (Oxford University Press 2017) 2-11.

³³⁷The Vienna Convention and its binding protocol (Montreal Protocol) offer little to the present climate change regime, the Montreal Protocol directly deal with depletion of the ozone layers, however, the Precautionary Principle recognised in the present climate change regime was borrowed from the Montreal Protocol in 1987. United Nation Framework on climate Change, eHandbook ><https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime>> accessed 2nd November 2018.

³³⁸ UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

³³⁹ UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

³⁴⁰ UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 [accessed 19 November 2018].

³⁴¹Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.

³⁴² Federal Ministry of Environment, Abuja, 'Nigeria's Intended Nationally Determined Contribution,

Apart from the three traditional climate change instruments, the non-binding Sustainable Development Goals (SDGs) 2015 —particularly, SDG 13 (climate action) is also part of the present climate change regime.³⁴³ In addition, there are principles of international environmental law such as the precautionary principle (PP), polluter pays principle (PPP), sustainable development (SD), common but differentiated responsibilities (CBDR), public participation, which are incorporated into the climate change agreements.³⁴⁴

The climate change instruments, particularly UNFCCC, Kyoto Protocol, and the Paris Agreement, impose obligations on the Parties, both developed and developing countries, that have signed up to these agreements. Some of the key obligations placed on the Parties are to integrate climate change measures into national policy,³⁴⁵ reduce emissions from the forest sector,³⁴⁶ develop and improve Renewable Energy (RE),³⁴⁷ provide climate change education and awareness,³⁴⁸ and a duty to report climate change activities.³⁴⁹ These obligations are linked and reaffirmed by key SDGs such as SDG13: to take urgent action to fight climate change, SDG 7: to ensure reliable and sustainable energy, and SDG 15: to promote sustainable

Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate Change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate Change coming up in December 2015.

³⁴³ GHG UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2021].

³⁴⁴D Esrin and H Kennedy, International Bar Association Climate Change Justice and Human Rights Task Force 2014. Achieving Justice and Human Rights in an Era of Climate Disruption. International Bar Association, 44. L Rajamani, 'The Papal Encyclical & The Role of Common but Differentiated Responsibilities in the International Climate Change Negotiations 2015 AJIL Unbound, 109, 142-146; E Orlando, Principles, Standards and Voluntary Commitments in International Environmental Law (2nd edn,) In Routledge Handbook of International Environmental Law (Routledge 2020) 15-29; L Krämer and E Orlando, Principles of Environmental law (edn, Edward Elgar Publishing 2018) 1-10.

³⁴⁵Article 4 (1) (f), Article 4(2) (a) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018]; and Article 6 (1) of the Paris Agreement UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

³⁴⁶ Article 4 (1) c of UNFCCC, Article 2 (1) a ii Kyoto protocol.

³⁴⁷ Article 2 (1) I the Kyoto Protocol.

³⁴⁸ Article 6 of the UNFCCC has reflected in Article 10 (e) of the Kyoto Protocol and Article 12 of the Paris Agreement.

³⁴⁹ Articles 4 and 12 UNFCCC and Article 13 (7) of the Paris Agreement.

management of forests. As a developing country, Nigeria is a party to all the agreements mentioned above³⁵⁰ and has signed and ratified all three international climate change instruments.³⁵¹

Therefore, this chapter aims to provide an overview of the climate change instruments, the obligations, and the principles arising from the climate change regime to enable later chapters to offer an in-depth analysis of these principles and obligations in the context of Nigeria. This chapter will first address the legal framework of the international climate change regime; second, the key principles and the obligations arising from the climate change instruments; third, the Nigeria NDC pledges under the Paris Agreement; fourth, the SDGs and the synergies between climate change obligations and key SDGs and the Nigeria NDC commitments.

3.2 THE MAIN CLIMATE CHANGE INSTRUMENTS

3.2.1 THE UNFCCC

The first ever international effort to reduce the emissions of GHG was the UNFCCC.³⁵² The UNFCCC was a product of the Earth Summit held on the 9th of May 1992, in Rio de Janeiro in Brazil.³⁵³ This was because of the rapid increase of GHG by human activities. The first paragraph of the preamble of the UNFCCC clearly states the reasons that led to the summit. According to the first paragraph, ‘human activities have been substantially increasing the atmospheric concentrations of greenhouse gases, and that this will result on average in an

³⁵⁰ United Nations Framework on ccc ‘status of ratification of the convention <https://unfccc.int/process/the-convention/what-is-the-convention/status-of-ratification-of-the-convention>> accessed December 27, 2018

³⁵¹ Ibid.

³⁵²The UNFCCC came to force in 1994, it has a membership of about 196 countries. United Nation Framework on climate Change, eHandbook ><https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime>> accessed 2nd November 2018.

³⁵³ United Nation Framework on climate Change, eHandbook > [UNFCCC eHandbook - Startpage](#) > accessed 2nd September 2021.

additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind.³⁵⁴ The primary objective of the UNFCCC is contained in Article 2, which aim is to 'achieve ... stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.'³⁵⁵ Stabilization of GHG concentration in the atmosphere according to the objective ensures that ecosystems adapt naturally to climate change, and the warming climate does not threaten food production.³⁵⁶ In other words, the objective of the UNFCCC is to ensure member states reduce the emissions of GHG. In order to make the objective of the UNFCCC a reality, member states proposed a binding protocol under UNFCCC in accordance with Article 17 Paragraph 2 of the UNFCCC.³⁵⁷

3.2.2 THE KYOTO PROTOCOL

The Kyoto Protocol was approved in 1997.³⁵⁸ The Protocol was to give precise and specific emission reduction targets for industrialised Party members.³⁵⁹ This Protocol opted for exact and specific reduction of GHG; its primary aim is to reduce the emission of GHG by 5% below 1990 levels by 2012.³⁶⁰ The Protocol has commitment periods for achieving its objectives. The first commitment period started from 2008 to 2012, and the Protocol contemplated another

³⁵⁴ First Paragraph of UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: [Refworld | United Nations Framework Convention on Climate Change : resolution / adopted by the General Assembly](#) > [accessed 1 July 2021].

³⁵⁵ Emphasis added Article 2 UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: [Refworld | United Nations Framework Convention on Climate Change : resolution / adopted by the General Assembly](#)> [accessed 1 July 2021].

³⁵⁶ Ibid.

³⁵⁷ Draft implementing agreement under the Convention prepared by the Government of the United States of America for adoption at the fifteenth session of the Conference of the Parties. Note by the secretariat > <https://unfccc.int/documents/5681#beg>, FCCC/CP/2009/7 > accessed 23 December 2020.

³⁵⁸ The protocol was adopted on the 11th of December 1997, and it came to force on 16th February 2005. Presently, its membership is about 192 countries who signed the agreement. United Nation Framework on climate Change, eHandbook > <https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime>> accessed 2nd November 2018.

³⁵⁹ Article 3 (1) UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

³⁶⁰ Ibid.

commitment beyond 2012.³⁶¹ At the 18th Conference of the Party (COP) held in Doha (Qatar) in 2012, the parties agreed on an amendment to the Kyoto Protocol, which is to extend the commitment period from 2013 to 2020.³⁶² Pursuant to Article 21 (7) and 20 (4) of the Kyoto Protocol, an amendment to the protocol is subject Parties' acceptance and, it requires signatories of at least three fourths of the members to the Kyoto Protocol. Three fourths of the Parties amount to 144 countries' signatories or endorsements.³⁶³ Nigeria became the 144th country to endorse the Doha amendment in 2020³⁶⁴ and the Doha amendment entered into force on the 31 December 2020.³⁶⁵

The Kyoto Protocol has different challenges which affect its implementation. First, the Protocol gives more attention to climate change mitigation, while less attention is given to adaptation.³⁶⁶ Second, the Protocol categorises countries into Annex I³⁶⁷ and Annex II countries,³⁶⁸ least developed countries, and small island countries³⁶⁹ based on the principle of common but differentiated responsibilities.³⁷⁰ This created a static division between industrialised and

³⁶¹ Article 3 (9) and Article 21 (7) UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

³⁶² United Nations Framework Convention on Climate Change: Report of the Conference of the Parties on its eighteenth session, held in Doha from 26 November to 8 December 2012 FCCC/CP/2012/8/Add.1 available <<https://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf#page=19>> accessed 12 March 2018.

³⁶³ United Nations Climate Change, The Doha Amendment available at <[The Doha Amendment | UNFCCC](#) > accessed 7th March 2021.

³⁶⁴ Department of Climate Change, Nigeria became the 144th country to ratify the Doha amendment. available at [Nigeria became the 144th country to ratify the Doha Amendment. | Department of Climate Change](#) > Accessed 7 March 2021.

³⁶⁵ United Nation Climate Change, The Doha Amendment available at < [The Doha Amendment | UNFCCC](#) > accessed 12 March 2021.

³⁶⁶ D Esrin and H Kennedy, International Bar Association Climate Change Justice and Human Rights Task Force 2014. Achieving Justice and Human Rights in an Era of Climate Disruption. International Bar Association 1-240, 63-65.

³⁶⁷ See Annex I of the Kyoto Protocol, UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

³⁶⁸ See Annex II of the Kyoto Protocol, UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

³⁶⁹ D Bodansky, 2016. 'The Paris climate change agreement: a new hope?' 110(2) American Journal of International Law 1-46 at 15-16.

³⁷⁰ The principle of common but differentiated responsibility is discussed below at section 3.3.2.

developing countries to reduce emissions of GHG, which impeded its implementation.³⁷¹ The categorisation implies that developing countries like China, Brazil, India, and many others, including Nigeria are exempted from taking binding targets under the Protocol.³⁷² The United States of America (USA) Senate argued that ‘the Kyoto Protocol exempted 80 percent of the world from GHG emission reductions.’³⁷³ Similarly, the Environmental Minister of Australia said, Kyoto fails to cover 75% of the global GHG emissions because it excludes developing countries that emit half of the world’s global GHG emissions.³⁷⁴ Canada gave similar reasons.³⁷⁵

Citing this as a reason, Canada withdrew from the Kyoto Protocol in 2012 after the first commitment period.³⁷⁶ The USA, the second largest GHG emitters, refused to ratify the Protocol after signing it.³⁷⁷ The refusal of the USA to ratify the Protocol means the US congress has rejected the Protocol because, under USA law, any treaty endorsed by the executive branch must be ratified by a two-thirds majority of the Senate.³⁷⁸ In fact, Kyoto is said to have failed to make a substantial impact under the climate change regime.³⁷⁹ Despite these concerns, the

³⁷¹L Hermwille and C Beuermann, ‘UNFCCC before and after Paris—what’s necessary for an effective climate regime?’. *Climate Policy* 2017 17(2), 150-170.

³⁷² See Annex B of the UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

³⁷³ Inhofe Warns the Failures of Kyoto Will Repeat with Paris Climate Agreement. 2016. Washington: Federal Information & News Dispatch, Inc.

³⁷⁴ F Jotzo, ‘Developing countries and the future of the Kyoto Protocol’ (2004) *Economics and Environment Network, Working Paper*, EEN0406; D Esrin and H Kennedy, *International Bar Association Climate Change Justice and Human Rights Task Force* 2014. *Achieving Justice and Human Rights in an Era of Climate Disruption*. International Bar Association 1-240, 63-65.

³⁷⁵ C Napoli, ‘Understanding Kyoto’s failure’ (2012) 32 (2) *SAIS Review of International Affairs*, 183-196 at 192

³⁷⁶ Compliance Committee, Canada’s withdrawal from the Kyoto Protocol and its effects on Canada’s reporting obligations under the Protocol 20 August 2014 CC/EB/25/2014/2 available > https://unfccc.int/files/kyoto_protocol/compliance/enforcement_branch/application/pdf/cc-eb-25-2014-2_canada_withdrawal_from_kp.pdf> accessed 13 May 2018.

³⁷⁷ J Hovi and D Sprinz, ‘Why the United States did not become a party to the Kyoto Protocol: German, Norwegian, and US perspectives’ 2012 18(1) *European Journal of International Relations* 129-150; C Napoli, ‘Understanding Kyoto’s failure’ (2012) 32 (2) *SAIS Review of International Affairs*, 183-196 at 193.

³⁷⁸ E Borchard, *Treaties and Executive Agreements--A Reply* (1994) 54 *Yale LJ*, 1994) 616.

³⁷⁹ A M Rosen, ‘The wrong solution at the right time: The failure of the kyoto protocol on climate change (2015) 43 910 *Politics & Policy*, 30-58.

Kyoto Protocol is not formally terminated by the Parties and the obligations³⁸⁰ and the measures³⁸¹ recognised by the Kyoto Protocol remain relevant to this thesis.

3.2.3 THE PARIS AGREEMENT

The various above issues relating to Kyoto Protocol led parties to negotiate another climate change agreement, and the negotiation finally became fruitful on the 12th December 2015 at COP 21 in Paris.³⁸² The new climate change agreement adopted by the parties in Paris is known as the Paris Agreement.³⁸³ This agreement was adopted to solve some of the defects of the Kyoto Protocol.³⁸⁴ First, the central aim of the Paris Agreement is to keep global temperature rise below 2 degrees Celsius above pre-industrial levels or even further to 1.5 degrees Celsius.³⁸⁵ This was described as an ambitious goal.³⁸⁶ Second, parties agreed to scale up financial resources to balance the achievement of both mitigation and adaptation programmes.³⁸⁷ This is because adaptation was not prioritised under the Kyoto Protocol. Third, the Paris Agreement introduced a discretionary aspect known as Nationally Determined Contribution (NDC), which gives all parties, both developed and developing countries, including Nigeria, to voluntarily pledge certain mitigation targets and pursue domestic

³⁸⁰Such as reduction of emissions in the forest sector Article 2 (1) a ii Kyoto protocol; develop and improve renewable energy Article 2 (1) I the Kyoto Protocol; Initiate climate change education and awareness Article 10 (e) of the Kyoto Protocol etc.

³⁸¹ Such as CDM programmes discussed in section [5.12 the role of CDM projects in phasing out gas flaring](#).

³⁸²L Rajamani, The Warsaw climate negotiations: emerging understandings and battle lines on the road to the 2015 climate agreement, 2014 63(3) *International & Comparative Law Quarterly* 721-740; L Rajamani, 'The Durban platform for enhanced action and the future of the climate regime 2012 61 (2) *International & Comparative Law Quarterly*, 61(2) 501-518.

³⁸³The Paris Agreement opened for signatory on the 22 April 2016, it finally enters into force on the 4th of November 2016. Presently, about 125 countries had signed and ratified the Paris Agreement; United Nation Framework on climate Change eHandbook ><https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime>> accessed 2nd November 2018.

³⁸⁴ W Obergassel and H Wang-Helmreich, 'Phoenix from the ashes: an analysis of the Paris Agreement to the United Nations Framework Convention on Climate Change – Part I (2015) Wuppertal Institute for Climate, Environment and Energy, Germany 245-247.

³⁸⁵ Article 2 UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

³⁸⁶ R Cléménçon, 'The two sides of the Paris climate agreement: Dismal failure or historic breakthrough? 2016 25(1) *Journal of Environment & Development* 3–24.

³⁸⁷ Article 9(4) Paris Agreement.

mitigation measures with the aim of achieving its objectives.³⁸⁸ The NDC was referred to as a 'bottom-up'³⁸⁹ approach since both developed and developing country Parties are voluntarily committed to reducing GHG emissions.³⁹⁰ This appears to have lowered the strict division of industrialised and developing countries recognised in the Kyoto Protocol.³⁹¹ Many academics believe that the NDCs under the Paris Agreement have made developing countries to make serious commitment to reduce GHG emissions unlike the Kyoto Protocol.³⁹² This may lead to a global reduction of GHG.³⁹³

It is important to note that the Paris Agreement is not without flaws. For example, the Paris Agreement fails to include measurable targets for its implementation process.³⁹⁴ It was said that the voluntary pledges made by parties fall short of the global ambition and that full implementation will not completely stop the rising temperature.³⁹⁵ Moreover, huge emitters such as the USA have not ratified the Agreement. The USA formally withdrew from the Paris

³⁸⁸Article 4 (2) UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2018].

³⁸⁹ Bodansky, D., 2016. The Paris climate change agreement: a new hope? *American Journal of International Law*, 110(2), pp.288-319.; David Roberts, "The Conceptual Breakthrough Behind the Paris Climate Treaty," *vox.com* (Dec. 15, 2015).

³⁹⁰ K Bäckstrand and E Lövbrand, 'Non-state actors in global climate governance: from Copenhagen to Paris and beyond' 2017 (26) 4 *Environmental Politics* at 563-565

³⁹¹S Maljean-Dubois, 'The Paris Agreement: a new step in the gradual evolution of differential treatment in the climate regime?' (2016) 25 (2) *Review of European, Comparative & International Environmental Law*, 25(2),151-160, 156; S Maljean-Dubois and M Wemaere, 'The Paris Agreement: A Starting Point towards Achieving Climate Neutrality' (2016) 10 (1) *Carbon and Climate Law Review*, Lexxion 1-6

³⁹² See O Woolley, 'Developing Countries Under the International Climate Change Regime: How Does the Paris Agreement Change Their Position? In *Ethiopian Yearbook of International Law* 2016) 179-200; S Maljean-Dubois and M Wemaere, 'The Paris Agreement: A Starting Point towards Achieving Climate Neutrality' 2016 (10)1 *Carbon and Climate Law Review*, Lexxion 1-6.

³⁹³ G Iyer and P Kyle, 'The contribution of Paris to limit global warming to 2 C' 2015 10(12) *Environmental Research Letters* 1 -10.

³⁹⁴ Manga, S.J.T., 2018. Post-Paris Climate Agreement UNFCCC COP-21: Perspectives on International Environmental Governance. *African Journal of International and Comparative Law*, 26(3), pp.309-338.

³⁹⁵UNEP (2017). The Emissions Gap Report 2017. United Nations Environment Programme (UNEP), Nairobi > https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf > accessed 12th June 2019; W Obergassel and H Wang-Helmreich, 2015. 'Phoenix from the ashes: an analysis of the Paris Agreement to the United Nations Framework Convention on Climate Change – Part I (2015) Wuppertal Institute for Climate, Environment and Energy, Germany 245-247.

Agreement in November 2020.³⁹⁶ However, the new administration of the USA has signed an executive order to re-join the Paris Agreement.³⁹⁷

The interest of this topic is not primarily the shortcomings highlighted above but the obligations created for member nations, including Nigeria, to pursue domestic measures to achieve their targets under the climate change regime, which is one the focus of this chapter.

3.3 KEY ENVIRONMENTAL PRINCIPLES GUIDING THE CLIMATE CHANGE REGIME

Environmental principles play a key role to protect the human environment.³⁹⁸ For instance, the Precautionary Principle was adopted in 1987 in the Vienna Convention and its binding protocol (Montreal Protocol). The Montreal Protocol, is one of the most successful multilateral treaties, which encourages Parties to act in the interest of human safety, despite the lack of scientific certainties.³⁹⁹ Parties adopted the Montreal Protocol and phased out the use of hydrochlorofluorocarbons and hydrofluorocarbons that deplete the ozone layer even in the face of scientific uncertainties.⁴⁰⁰ Based on the success of the Vienna Convention, the climate change regime expressly directs member nations to adopt key environmental principles to achieve the climate change obligations. For instance, Article 3 of the UNFCCC explicitly states that in

³⁹⁶ Matt McGrath, Climate change: US formally withdraws from Paris agreement (BBC NEWS) available at < [Climate change: US formally withdraws from Paris agreement - BBC News](#) > accessed 12 May 2021 ; S P Mulligan, Withdrawal from international agreements: legal framework, the Paris agreement, and the Iran nuclear agreement (2018) Congressional Research Service.

³⁹⁷ [C Davenport](#) and [L Friedman](#), 'Biden Cancels Keystone XL Pipeline and Rejoins Paris Climate Agreement' (The New York Times Feb 2021) available at < [Coral Davenport - The New York Times \(nytimes.com\)](#) > ACCESSED 13 May 2021.

³⁹⁸ D Kriebel and M Stoto, 'The Precautionary Principle in Environmental Science (2001) 109(9) 871-876 at 871.

³⁹⁹ Montreal Protocol on Substances that Deplete the Ozone Layer (with annex). Concluded at Montreal on 16 September 1987 No. 26369 available at < <https://treaties.un.org/doc/publication/unts/volume%201522/volume-1522-i-26369-english.pdf> > Accessed 12th March 2018.

⁴⁰⁰ See United Nation Framework on climate Change, eHandbook > <https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime> > accessed 2nd November 2018.

order ‘to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided’ by principles such as precautionary principle (PP) and common but differentiated responsibilities (CBDR). Similarly, the Paris Agreement in Article 2 (2) states that the agreement should be implemented to reflect environmental Principles such as common but differentiated responsibilities,⁴⁰¹ sustainable development.⁴⁰² Precautionary Principle⁴⁰³ and public participation.⁴⁰⁴

Again, an environmental principle such as the Polluter pays principle could help to reduce emissions of GHG which is one of the objectives of the climate change regime. The PPP is the core aspect of carbon pricing where a carbon tax places ‘a direct price on GHG emissions and requires economic actors to pay for every ton of carbon pollution emitted.’⁴⁰⁵ The aim is to compel polluters to switch from traditional fossil fuel use to cleaner energy as well as to raise revenue.⁴⁰⁶ This is one of the objectives of the climate change regime. Therefore, this segment concentrates on these five environmental principles viz: the PP, PPP, SD, CBDR, and Public Participation because these principles play an important role in emission reduction, and they are relevant in this research.

3.3.1 THE PRECAUTIONARY PRINCIPLE (PP)

⁴⁰¹Article 2 (2) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2022]; Article 13 (1) Paris Agreement.

⁴⁰² Article 2 (1) *ibid.*

⁴⁰³ Article 4 (1) *ibid.*

⁴⁰⁴ Article 12 *ibid.*

⁴⁰⁵ Carbon Pricing Leadership Coalition, available at < <https://www.carbonpricingleadership.org/what> > Accessed 18th May 2020; S Alam, ‘Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 8.

⁴⁰⁶A Pegels, ‘Taxing carbon as an instrument of green industrial policy in developing countries, Discussion paper (2016) 23 Enconstor, at 6-10; A Pegels, Taxing carbon in developing countries (German Development Institute 2018) 1-2.

The PP is traced to a German principle in the early 1970s known as the ‘Vorsorgeprinzip.’⁴⁰⁷ Translation of this word in English means ‘foresight.’⁴⁰⁸ This PP developed into German Environmental law for over two decades, and it has served as a key element in international environmental agreements tackling the North Sea Pollution and Global warming under international Environmental Law.⁴⁰⁹ The PP is anchored on the saying government or organisation ‘should not wait for scientific certainty before acting on a threat.’⁴¹⁰ This is the central theme of the adage that says ‘it is better to be safe than sorry.’ The most referred definition of the PP is that of the Principle 15 Rio Declaration 1992, which says where there are ‘threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.’⁴¹¹

The PP recognised in the present climate change regime was borrowed from the Montreal Protocol in 1987.⁴¹² This principle was clearly set out in principle 15 of Rio Declaration⁴¹³ and later found its way to the UNFCCC.⁴¹⁴ The UNFCCC invoked the PP and emphasised the need of all the member states to adhere to the PP while combating climate change. According to Article 3(3) of the UNFCCC, parties to the UNFCCC ‘should take precautionary measures to

⁴⁰⁷ D Kriebel and M Stoto, ‘The Precautionary Principle in Environmental Science (2001) 109 (9) 871-876 at 871.

⁴⁰⁸ D Kriebel and M Stoto, ‘The Precautionary Principle in Environmental Science (2001) 109(9) 871-876 at 871.

⁴⁰⁹ Ibid.

⁴¹⁰ L Heinzerling “Climate Change, Human Health, and the Post-Cautionary Principle” (2008) 96 The Georgetown Law Journal 445 452.

⁴¹¹ Principle 15 of Report Of The United Nations Conference on Environment And Development (Rio de Janeiro, 3-14 June 1992) A/CONF.151/26 (Vol. I) > <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>> accessed 28th December 2018 ; J Cameron and J Abouchar ‘The precautionary principle: a fundamental principle of law and policy for the protection of the global environment’ 1991(4) 1. BC Int’l & Comp. L. Rev 1-26 at 1- 2.

⁴¹² The Montreal Protocol is one of the most successful multilateral Treaties. The Protocol encourages Parties to act in the interest of human safety, despite the lack of scientific certainties. See United Nation Framework on climate Change, eHandbook ><https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime>> accessed 2nd November 2018.

⁴¹³ The Rio Declaration on Environment and Development (1992) <http://www.unesco.org/education/pdf/RIO_E.PDF> accessed 13th June 2019.

⁴¹⁴ Article 3 UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects.⁴¹⁵

The Paris Agreement did not specifically use the term PP, but it loosely refers to the PP as ‘the best available science.’⁴¹⁶ Article 4(1) of the Paris Agreement encourages the Parties ‘to undertake rapid reductions of GHG... in accordance with best available science.’ These provisions imply that Parties should employ the PP in formulating regulations and policies even though the supporting evidence is incomplete, and the economic cost of regulating is very high.⁴¹⁷

The PP has been criticised in several ways. First, the definition of PP in the Rio Declaration did not specify or define ‘serious threat’⁴¹⁸ Sandin argued that terms such as ‘serious threats’ ‘irreversible damage’ contained in the Rio Declaration remain ambiguous since they are not defined.⁴¹⁹ Critics argue that definitional lapses of the concept PP do not encourage legal certainty and may result in inconsistency in its application.⁴²⁰ Another criticism of the PP is that it is anti-science and it may prevent scientific innovations.⁴²¹ This argument is based on the fact that scientific innovations centered on risk, and there is nothing like zero risks in any

⁴¹⁵Article 3(3) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

⁴¹⁶ Article 4 (1) UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2018]; J C Hanekamp and L Bergkamp, ‘The Best Available Science and the Paris Agreement on Climate Change (2016) 7 Eur. J. Risk Reg. 42. at 48; F Ekardt, and J Wieding ‘Paris Agreement, precautionary principle and human rights: Zero emissions in two decades? (2018) 10(8), Sustainability, at 9-10

⁴¹⁷ ‘Science for Environment Policy Future Brief: The precautionary principle: decision-making under uncertainty (2017 European Commission) 8 < https://ec.europa.eu/environment/integration/research/newsalert/pdf/precautionary_principle_decision_making_under_uncertainty_FB18_en.pdf> accessed 22 August 2019 ;A Boswell, ‘Strengthening the Precautionary Principle in the Post-Paris Climate Regime. Environment (2017) 59(5) Science and Policy for Sustainable Development, 26-37.

⁴¹⁸P Sandin, The precautionary principle and food safety (2006) 1(1) Journal für Verbraucherschutz und Lebensmittelsicherheit, 2-4.

⁴¹⁹ P Sandin, 2006. The precautionary principle and food safety (2006) 1(1) Journal für Verbraucherschutz und Lebensmittelsicherheit, 2-4.

⁴²⁰ G E Marchant, and K L Mossman, 2004. Arbitrary and capricious: The precautionary principle in the European Union courts (American Enterprise Institute 2004); C R Sunstein, Beyond the precautionary principle (University of Pennsylvania Law Review 2003) 1003-1058; K R Foster and M H Repacholi, ‘Science and the precautionary principle. Science’ (2000) 288(5468) Social Science Premium Collection pp.979-981.

⁴²¹ C R Sunstein, Beyond the precautionary principle (University of Pennsylvania Law Review 2003) 1003-1058.

technological development. Critics are of the view that relying on the definition of PP does not encourage scientific innovations.⁴²²

Irrespective of these arguments, the PP remains an important principle that guides the climate change laws at the national level, especially its components. PP components such as risk assessment, ‘taking preventive action in the face of uncertainty; shifting the burden of proof to the proponents of an activity; exploring a wide range of alternatives to possibly harmful actions...’⁴²³ are used by states to prevent pollution⁴²⁴ as well as to protect human health.⁴²⁵ Please note that this segment aims not to discuss all these components in detail but to show how they support policies that protect human health and the environment.⁴²⁶ For instance, the Montreal Protocol, one of the most successful multilateral treaties, encourages Parties to act in the interest of human safety, despite the lack of scientific certainties.⁴²⁷ Parties adopted the Montreal Protocol and phased out the use of hydrochlorofluorocarbons and hydrofluorocarbons that deplete the ozone layer even in the face of scientific uncertainties.⁴²⁸

Several countries⁴²⁹ have adopted risk assessment⁴³⁰ to regulate human exposure to radiofrequency radiation at the national level.⁴³¹ It has been proven that high exposure

⁴²²C Orset, ‘Innovation and the precautionary principle (2014) 23 (8) Economics of Innovation and New Technology 780-801; C R Sunstein, Beyond the precautionary principle (University of Pennsylvania Law Review 2003) 1003-1058.

⁴²³D Kriebel and M Stoto, ‘The Precautionary Principle in Environmental Science (2001) 109(9) 871-876 at 871.

⁴²⁴J E Hickey & VR Walker, ‘Refining the precautionary principle in international environmental law’ (1995) 14 Virginia Environmental Law Journal 423 425; D A Farber, ‘Coping with uncertainty: cost-benefit analysis, the precautionary principle, and climate change. 2015 (12) 1 Wash. L. Rev., 90,1659-1726 at 1672.

⁴²⁵D Kriebel and M Stoto, ‘The Precautionary Principle in Environmental Science (2001) 109(9) 871-876 at 871.

⁴²⁶D Kriebel and M Stoto, ‘The Precautionary Principle in Environmental Science (2001) 109(9) 871-876 at 871.

⁴²⁷Montreal Protocol on Substances that Deplete the Ozone Layer (with annex). Concluded at Montreal on 16 September 1987 No. 26369 available at < <https://treaties.un.org/doc/publication/unts/volume%201522/volume-1522-i-26369-english.pdf> Accessed 12th March 2018.

⁴²⁸ See United Nation Framework on climate Change, eHandbook ><https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime>> accessed 2nd November 2018.

⁴²⁹ Such as Italy 1998 Switzerland 1999.

⁴³⁰ K R Foster and M H Repacholi, ‘Science and the precautionary principle. Science’ (2000) 288(5468) Social Science Premium Collection pp.979-981.

⁴³¹ K R Foster and M H Repacholi, ‘Science and the precautionary principle. Science’ (2000) 288(5468) Social Science Premium Collection pp.979-981.

radiofrequency could be harmful to humans, and the government of Germany and Switzerland adopted the PP to limit the use of radio frequency in sensitive areas such as residential areas, schools, and hospitals.⁴³² Besides, national governments using the PP to control human health issues, the PP is also relied on by the courts to encourage national governments to fulfil their climate change obligations.⁴³³ The courts do that by shifting the burden of proof to the defendant.⁴³⁴ The point is that the PP is relevant in the climate change regime; therefore, chapter four of this thesis assesses PP in Nigeria's climate change-related laws and how it will help reduce GHG emissions.

3.3.2 COMMON BUT DIFFERENTIATED RESPONSIBILITIES (CBDR)

The CBDR was first recognised under Article 7 of the Rio Declaration⁴³⁵ before finding its way to the present climate change regime. Under the climate change regime, Article 3 (1) of the UNFCCC established the principle of CBDR, and it provides that Parties to the convention should adopt CBDR according to their respective capacities.⁴³⁶

During the negotiation of the climate change agreement, the Parties placed a huge responsibility on industrialised Party members to lead the way because evidence shows that developed countries are the cause of major source of emissions of GHG both in the past and

⁴³²K R Foster and M H Repacholi, 'Science and the precautionary principle. Science' (2000) 288(5468) Social Science Premium Collection pp.979-981.

⁴³³ P Sands and J Peel, Principles of international environmental law. (Cambridge University Press 2012).

⁴³⁴Good example is the case of Massachusetts V Environmental Protection Agency (EPA) where EPA argued that it is unwise to regulate emissions of GHG from the transport sector as the time the Clean Air Act was enacted, because the casual link between GHGs and that sector was not unequivocally proven. EPA as a defendant in this case failed to prove that GHG emissions from the transport sector do not contribute to climate change. Failure of EPA to prove non contribution of GHG from the transport sector led the Supreme Court of United State to rely on the PP approach and said EPA 'could not avoid its obligations because of some 'residual uncertainty' and consequently ordered EPA to regulate emission from the transport sector. See 127 S.Ct. 1438 (2007) 549 U.S. 497; Science for Environment Policy (2017) The Precautionary Principle: decision making under uncertainty. Future Brief 18. Produced for the European Commission DG Environment by the Science Communication Unit, UWE, Bristol. 8 Available at: <http://ec.europa.eu/science-environment-policy> > accessed 22nd August 2019

⁴³⁵ The Rio Declaration on Environment and Development (1992)

⁴³⁶ See Article 3 (1) of the UNFCCC

the present.⁴³⁷ So, they are expected to lead the fight against climate change. This notion of developed countries contributes more GHG than the developing countries hinged on the principle recognised in Article 3 (1) of the UNFCCC, known as common but differentiated responsibilities. The CBDR literally means the risk, or the negative effect of climate change is common to all nations, and every nation should cooperate and solve the problems. However, the responsibilities or the burden of solving the problems should be differentiated—rich nations should carry a larger burden while poor nations carry a smaller burden.⁴³⁸ What this means is that developing countries contribute little or nothing to the emissions of GHG while developed nations produced most of the emissions;⁴³⁹ hence, the developed country Parties should bear the brunt in the fight against climate change.⁴⁴⁰ This is the notion behind the emission targets recognised in the Kyoto Protocol where only the industrialised countries made binding commitments to reduce GHG emissions while developing country Parties were exempted from taking any binding targets.⁴⁴¹

Critics argued that the CBDR is being used as a legal shield by developing countries, which may generate obstacles for achieving the objectives of the climate change agreements.⁴⁴² Many developing countries such as China, Brazil, and India are among the top emitters of GHG hide

⁴³⁷H D Matthews, 'Quantifying historical carbon and climate debts among nations (2016) 6(1) *Nature climate change* 60.

⁴³⁸C Stone, 'Common but differentiated responsibilities in international law' 2004 98 (2) *American Journal of International Law* 276-301; M Weisslitz, 'Rethinking the equitable principle of common but differentiated responsibility: differential versus absolute norms of compliance and contribution in the global climate change context' 2002 *Colo. J. Int'l Env'tl. L. & Pol'y* 13,473; P Cullet, 'Common but differentiated responsibilities' 2010 *Research Handbook on International Environmental Law*, 161.

⁴³⁹ L H Meyer, 'Why historical emissions should count' (2012) 13 *Chi. J. Int'l L.* 597; However, there are arguments that the historical emission of CO₂ cannot be quantified.; H D Matthews, 'Quantifying historical carbon and climate debts among nations (2016) 6(1) *Nature climate change* 60.

⁴⁴⁰ M Getu 'Accommodating the Interests of Developing Countries in the Climate Change Regime: Lessons from the Ozone Layer Regime' (2012) 6(1) *Mizan Law Review* 1 13.

⁴⁴¹ See section 3.2.2 the Kyoto Protocol.

⁴⁴² W Scholtz, 'Equity as the basis for a future international climate change agreement: between pragmatic panacea and idealistic impediment. The optimisation of the CBDR principle via realism' (2009) 42(2) *The Comparative and International Law Journal of Southern Africa* 166 167.

under the CBDR and may continue to emit GHG without restrictions.⁴⁴³ Academics argued that requiring only industrialised country Parties to make commitment will be a big problem in achieving the climate change objectives.⁴⁴⁴ The exemption of developing countries with the highest GHG emissions from making a binding commitment was probably why some developed countries like the USA refused to ratify the Kyoto Protocol⁴⁴⁵ and now the Paris Agreement.⁴⁴⁶ It was suggested that some developing countries should assume more commitment to emission reduction⁴⁴⁷ due to the large emissions of GHG.⁴⁴⁸

However, this research argues that the CBDR should not be a shield to developing countries because GHG emissions in most developing countries are growing, requiring active participation of developing countries.⁴⁴⁹ The IPCC noted this position. According to the IPCC, ‘stringent controls in industrialised countries combined with moderated growth of emissions in developing countries could stabilize atmospheric concentrations.’⁴⁵⁰ This amplifies the main purpose of Article 7 of the Rio Declaration.⁴⁵¹ The primary intent is for a joint global effort to

⁴⁴³ M Bortscheller, ‘Equitable but ineffective: How the principle of common but differentiated responsibilities hobbles the global fight against climate change (2009) 10 Sustainable Dev. L. & Pol’y 49-68, 53.

⁴⁴⁴ P Baer, Equity, Greenhouse Gas Emissions, and Global Common Resources in SH Schneider et al (eds) *Climate Change Policy, A Survey* (2002) 393 394; I P Change, *Climate change, the IPCC scientific assessment* (Mass, Cambridge 1990) 13.

⁴⁴⁵ S Barrett & R Stavins ‘Increasing Participation and Compliance in International Climate Change Agreements’ (2002) Working Paper 9-13.

⁴⁴⁶ Inhofe Warns the Failures of Kyoto Will Repeat with Paris Climate Agreement. 2016. Washington: Federal Information & News Dispatch, Inc. Take note that the new administration of Biden of USA issued an executive order to rejoin the Paris Agreement. See section 3.2.3 The Paris Agreement.

⁴⁴⁷ Getu M, ‘Accommodating the Interests of Developing Countries in the Climate Change Regime: Lessons from the Ozone Layer Regime’ (2012) 6(1) *Mizan Law Review* 1 1-44 at 43.

⁴⁴⁸ A Li, ‘Hopes of Limiting Global Warming? China and the Paris Agreement on Climate Change. China Perspectives, 2016(2016/1), 49-54.

⁴⁴⁹ Y Solomon, ‘The obligation of Developing Countries towards climate Change Mitigation and Adaptation under international Climate Change Regime’ 18; P Shukla, ‘Justice, equity and efficiency in climate change: a developing country perspective 1999 *Fairweather* 145-159; G Krantberg, ‘The Role of Developing Countries in the Continuation of the Kyoto Protocol (2010); A Sari, *Developing Country Participation: The Kyoto-Marrakech Politics* (2005).; F Jotzo, 2005. *Developing countries and the future of the Kyoto Protocol. Global Change, Peace & Security* (2005) 17(1) 77-86; L Ringius and A Underdal, ‘Burden sharing and fairness principles in international climate policy (2002) 2(1) *International Environmental Agreements* 1-22.; M Bortscheller, ‘Equitable but ineffective: How the principle of common but differentiated responsibilities hobbles the global fight against climate change (2009) 10 *Sustainable Dev. L. & Pol’y* 49.; A Li, ‘Hopes of Limiting Global Warming? China and the Paris Agreement on Climate Change. China Perspectives, 2016(2016/1), 49-54.

⁴⁵⁰ I P Change, *Climate change, the IPCC scientific assessment* (Mass, Cambridge 1990) 13.

⁴⁵¹ United Nations General, *The United Nations Conference on Environment and Development, having met at Rio de Janeiro from 3 to 14 June 1992, A/CONF.151/26 (Vol. I) at*

combat the emissions of GHG.⁴⁵² It charged member states to cooperate in a spirit of global partnership in the fight against climate change.⁴⁵³ This joint global effort to combat climate change is recognised in UNFCCC. Article 4(2)(b) UNFCCC states that ‘...each of these Parties shall communicate, ...its policies and measures ... as well as on its resulting projected anthropogenic emissions by sources and removals... with the aim of returning individually or jointly to their 1990 levels ...’.⁴⁵⁴ Article 4(2) b of the UNFCCC carefully used the phrase ‘each of these parties’ and the words ‘individually or jointly.’ This suggests that the responsibility of cutting down the emissions of GHG is expected to be carried out by all the Parties either individually or jointly.⁴⁵⁵

Again, critical scrutiny of Article 4 (1), Article 3(1) UNFCCC), and Article 2(2) of the Paris Agreement suggest that CBDR is for all parties. Article 4(1) reads, ‘**All Parties**, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances.’⁴⁵⁶ Article 3(1) of the UNFCCC is to the effect that Parties to the convention should adopt CBDR **according to their respective capacities**. Article 2(2) of the Paris Agreement states that the ‘Paris Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and **respective capabilities**. The same provisions are contained in Articles 4 (3) and (19) of the Paris Agreement.

https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf accessed 28 December 2018.

⁴⁵² See Preamble of the United Nations Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992 AGENDA 21 > <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>> accessed 28 December 2018.

⁴⁵³ Ibid.

⁴⁵⁴ Article 4(2) b UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

⁴⁵⁵ I P Change, Climate change, the IPCC scientific assessment (Mass, Cambridge 1990) 13

⁴⁵⁶ Article 4 (1) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

The combined effect of these provisions of the UNFCCC and the Paris Agreement point to the fact that all Parties contribute to GHG emissions, which increased the warming of the global atmosphere. However, the contribution level may not be the same, and as such, the distribution of the burden of combating climate change will not be proportional but according to countries' capacity, availability of funds, and technological development. In other words, the CBDR is

- For all Parties, developed and developing countries, to protect the human environment for the benefit of the present and the future generation to come.
- The CBDR urged developed countries to help developing countries fulfil their obligations.
- Developing countries should act based on their capacity. This is evident in Article 4(3) of the Paris Agreement, where Parties are enjoined to make NDC, reflecting the principle of CBDR.

Therefore, the implication of CBDR, on the one hand, is for the Nigerian government to take responsibility to mitigate the emissions of GHG based on its capacity. On the other hand, receive support from developed country Parties if it is beyond its capacity, such as technological needs. The CBDR is discussed in the context of Nigeria in chapter seven of this thesis, especially the role and capacity of Nigerian climate change-related institutions to report climate change activities as well as climate change education.

3.3.4 SUSTAINABLE DEVELOPMENT (SD)

There are several definitions and descriptions of the concept SD.⁴⁵⁷ The idea of SD relates to the growth of the human population, industrial activities, and pollution.⁴⁵⁸ That the capacity of the world's limited natural resources may not continually support the exponential growth of the world population,⁴⁵⁹ if concrete measures are not taken to check the rapid growth of the population, there will be depletion of natural resources.⁴⁶⁰

However, academics argued that SD received international recognition in the UN Conference on the Human Environment in Stockholm in 1972.⁴⁶¹ Principle 2 of the Stockholm Declaration described SD as the management of natural resources 'for the benefit of the present and future generation.'⁴⁶² An essential milestone of the conceptualisation of SD was the 1987 Brundtland Report also referred to as 'our common future.'⁴⁶³ The Brundtland Report is the most recognised and widely cited and accepted by academics.⁴⁶⁴ According to the Brundtland Report, SD is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs.'⁴⁶⁵ The word 'needs' contained in the Brundtland Report was expanded. According to Blanco and Razzaque 'the concept of needs, particularly the essential need of the world's poor to which the overriding priority should be given.'⁴⁶⁶ It was argued that the 'principle of sustainable development is intended to promote

⁴⁵⁷M A Toman, 'The Difficulty in Defining Sustainability' in J Darmstadter (ed) *Global Development and the Environment, Perspectives on Sustainability* (1992) 15 16-17.

⁴⁵⁸ H Meadows, *The Limits to Growth* (1972) (Yale University Press, 2013) 101-116.

⁴⁵⁹ H Meadows, *The Limits to Growth* (1972) (Yale University Press, 2013) 101-116.

⁴⁶⁰ WW Rostow, *The world economy; history and prospect* (FAO 1978); A blen, *Encyclopedia of the environment*. (Houghton: Mifflin Co 1994).

⁴⁶¹ L Paxton, *Enviro Facts 3: Sustainable development* (Environmental Education Association of Southern Africa 1993); J C Dernbach, *achieving sustainable development: The Centrality and multiple facets of integrated decision making* (2003) 10 *Indiana Journal of Global Legal Studies*, 247–285

⁴⁶² Principle 2 Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration, 1972).

⁴⁶³G Brundtland, (1987) *Report of the World Commission on Environment and Development: Our Common Future*. United Nations General Assembly Document A/42/427.

⁴⁶⁴J Mensah and S R Casadevall, *Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review* (2019) 5 (1) *Cogent Social Sciences* 1.

⁴⁶⁵ World Commission on Environment and Development *Our Common Future* (1987) 43.

⁴⁶⁶E Blanco and J Razzaque, *Globalisation and natural resources law: challenges, key issues, and perspectives* (Edward Elgar Publishing 2011) 93.

development, particularly in developing countries where poverty tends to be more widespread.⁴⁶⁷

Aside from the Brundtland Report, SD is central in framing the discussion of the 1992 United Nations Conference on Environment and Development (UNCED), or the ‘Earth Summit’ in Rio de Janeiro.⁴⁶⁸ Principle 8 of the Rio Declaration states that ‘to achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies.’ SD was also acknowledged in the defunct 2010 Millennium Development Goals. Goal 7 of the Millennium Development Goals encouraged members to integrate the SD principle into country policies and programmes.⁴⁶⁹ The recent 2015 Sustainable Development Goals clearly state that the 2030 agenda is for ‘sustainable development.’⁴⁷⁰

SD as a concept has also developed into the three climate change instruments. Article 3 (4) of the UNFCCC encourages the Parties to promote SD. The Kyoto Protocol provides the means to attain SD. Article 12 (2) of the Protocol states that ‘the purpose of the clean development mechanism shall assist Parties not included in Annex I in achieving sustainable development.’ Article 2 of the Paris Agreement ‘aims to strengthen the global response to the threat of climate change, in the context of sustainable development.’ Most importantly, the Paris Agreement states that the implementation of the NDC should be tailored towards promoting SD.⁴⁷¹ To this

⁴⁶⁷ S Van Wyk, *The impact of climate change law on the principle of state sovereignty over natural resources* (Nomos Verlag 2017) 116; Principle 4 of *The Rio Declaration on Environment and Development* (1992).

⁴⁶⁸ H Stoddart, *A Pocket Guide to Sustainable Development Governance* (Commonwealth Secretariat 2011) at available at [Guia-de-bolso-para-a-governanca-voltada-para-o-desenvolvimento-sustentavel-ingles.pdf \(blogdocancado.com\)](http://blogdocancado.com) > accessed 10 May 2021.

⁴⁶⁹ Target 7.A of MDG.

⁴⁷⁰ E B Barbier and J C Burgess, ‘The Sustainable Development Goals and the systems approach to sustainability. *Economics: The Open-Access, Open-Assessment E-Journal*, (2017) 11(28), 1-23; 6.

⁴⁷¹ See also Article 7 and 10 UN General Assembly, *United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1* [accessed 19 November 2018].

end, SD as a concept is widely accepted in both national and international politics, and it has developed into several international agreements.⁴⁷²

Note that SD traditionally is said to have contained three main pillars: economy, social, and environment.⁴⁷³ The three-pillar model has been criticised because it provides a vague categorisation of the concept and makes it difficult for sectoral integration.⁴⁷⁴ To resolve this categorisation, the United Nations calls for action to integrate the three pillars of SD.⁴⁷⁵ For instance, Principles 4 and 25 of the Rio Declaration clearly state that to achieve SD, policies and activities in different sectors must be integrated. The call for integration of the three pillars is clearly stated in paragraph 6 of the 1995 Copenhagen Declaration on Social Development as well as paragraph 5 of the Johannesburg Declaration on Sustainable Development in 2002.⁴⁷⁶

This Johannesburg declaration appealed for the integration of ‘economic development, social development, and environmental protection - at the local and national...’⁴⁷⁷ Several scholars argued that integration of the three pillars is fundamental to SD.⁴⁷⁸

⁴⁷²V Barral, V, ‘Sustainable Development in International Law (2012) (23)2 the European Journal of International Law, 377-400; A Ross, Sustainable Development Law in the UK: From Rhetoric to Reality? (edn, Routledge 2013); S Baker, ‘In pursuit of sustainable development: a governance perspective’ In 8th international conference of the European society for ecological economics (ESEE), Ljubljana (2009) at 10.

⁴⁷³P Mackelworth and H Carić, ‘Gatekeepers of island communities: exploring the pillars of sustainable development. Environment, (2010) 12 (4) Development and Sustainability, 463-480 at 463; J Mensah, Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review (2019) 5 (1) Cogent Social Sciences, at 7; B Purvis and D Robinson, ‘Three pillars of sustainability: in search of conceptual origins (2019) 14 (3) Sustainability science, 681-695.

⁴⁷⁴K W Brand and G Jochum, The German discourse on sustainable development (MPS texts 2000) 1

⁴⁷⁵ See Resolution paragraph 5 of Johannesburg Declaration on Sustainable Development, World Summit on Sustainable Development. (2003). Johannesburg Declaration on Sustainable Development and Plan of Implementation of the World Summit on Sustainable Development: the final text of agreements negotiated by governments at the World Summit on Sustainable Development, 26 August-4 September 2002, Johannesburg, South Africa. [New York], [United Nations Department of Public Information].

⁴⁷⁶ See Resolution paragraph 5 of Johannesburg Declaration on Sustainable Development, World Summit on Sustainable Development. (2003). Johannesburg Declaration on Sustainable Development and Plan of Implementation of the World Summit on Sustainable Development: the final text of agreements negotiated by governments at the World Summit on Sustainable Development, 26 August-4 September 2002, Johannesburg, South Africa. [New York], [United Nations Department of Public Information].

⁴⁷⁷Ibid.

⁴⁷⁸ E Blanco and J Razzaque, Globalisation and natural resources law: challenges, key issues, and perspectives (Edward Elgar Publishing 2011) 93; E Rachel, The concept of sustainable development: definition and defining principles (2015) 2 GSDR 3; M Lehtonen, The environmental–social interface of sustainable development:

The intent of the current climate change regime regarding SD is not just about integrating the three components but also understanding the fact that specific actions such as the replacement of fossil fuels with renewable energy could achieve all 'three development goals simultaneously.'⁴⁷⁹ In this sense, SD to developing countries, including Nigeria, is that the fight against the impacts of climate change is not just about reducing GHG emissions, but policies and laws must be formulated to substitute fossil fuels with renewable sources. Therefore, the intention is to assess the Nigerian energy policies and how they will drive renewable energy at the national level with the aim of fulfilling Nigeria's climate change targets in the future. This is assessed in chapter five of this thesis.

3.3.5 POLLUTER PAYS PRINCIPLE (PPP)

The PPP simply means⁴⁸⁰ 'the polluter should bear the expenses of pollution prevention and control of pollution.'⁴⁸¹ The PPP was said to have existed as far as the 1920s.⁴⁸² The Organisation for Economic Co-operation and Development Countries (OECD) recommended the PPP as the 'Guiding Principles concerning International Economic Aspects of Environmental Policies' in 1972.⁴⁸³ This economic principle later became a legal principle⁴⁸⁴

capabilities, social capital, institutions (2004) 49 (2) *Ecological economics*, 199-214 ; L Kurukulasuriya and N A Robinson, *UNEP Training Manual on International Environmental Law* (United Nations Environment Programme 2006) at 25.

⁴⁷⁹J Sathaye and A Shmakin *Renewable Energy in the Context of Sustainable Development*. In *IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation* (2011 eds, Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA at 713.

⁴⁸⁰O Vicha, 'The polluter-pays principle in OECD recommendation and its application in international and EC/EU law' (2011) *Czech Yearbook of Public & Private International Law* 57 58.

⁴⁸¹O Vicha, 'The polluter-pays principle in OECD recommendation and its application in international and EC/EU law' (2011) *Czech Yearbook of Public & Private International Law* 57 58.

; OECD 'Application of the Polluter-Pays Principle to Accidental Pollution' (adopted 7 July 1989) [c (89)88].

⁴⁸²M Munir, 'History and Evolution of the Polluter Pays Principle: How an Economic Idea Became a Legal Principle?' (2013) Available at SSRN 2322485.

⁴⁸³OECD 'Guiding Principles concerning International Economic Aspects of Environmental Policies' (adopted 26 May 1972) [C (72)128].

⁴⁸⁴E Woerdman, 'Emissions Trading and the Polluter-Pays Principle: Do Polluters Pay Under Grandfathering?' (2008) 14 *Rotterdam Institute of Law and Economics Working Paper Series* 11. Stellenbosch

and it has been recognised in both regional and international instruments.⁴⁸⁵ One of the instruments that mentioned the PPP is Principle 16 of Rio Declaration. Principle 16 encourages national authority to take account of ‘the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.’

Regarding the climate change regime, PPP was not directly referred by any of the climate change instruments. However, academics argued that PPP is contemplated by the climate change regime, especially the CBDR principle, which encourages Parties to act based on their capabilities impliedly recognised the PPP.⁴⁸⁶ It was argued that the PPP is applicable to historical accountability, especially those countries that had emitted GHG in the past will now be held responsible for the full cost of mitigation.⁴⁸⁷ Candy’s suggestion of PPP is to extend historical accountability to corporations, international financial institutions, and sub national political authorities.⁴⁸⁸ It is plausible to mention here that using the PPP for historical accountability has generated many debates. For instance, it is not easy to hold any country accountable for GHG emissions that occurred naturally. It is also not easy to hold any country accountable for the GHG emissions attributed to the human factor since most of the people responsible for the emissions have died long ago.⁴⁸⁹

⁴⁸⁵ M Munir, ‘History and Evolution of the Polluter Pays Principle: How an Economic Idea Became a Legal Principle?’ (2013) Available at SSRN 2322485.

⁴⁸⁶ MR Khan, ‘Polluter-Pays-Principle: The Cardinal Instrument for Addressing Climate Change’ (2015) (4) *Laws* 638-638; A Zahar, ‘The Polluter-Pays Principle in International Climate Change Law: Are States Under an Obligation to Price Carbon Emissions?’ 2018 SSRN 1.

⁴⁸⁷ E Neumayer, ‘In defence of historical accountability for greenhouse gas emissions’ (2000) 33(2) *Ecological Economics* 185-192; C Knight, ‘Climate change and the duties of the disadvantaged: reply to Caney (2011) 14(4) *Critical review of international social and political philosophy*, 531-542; S Caney, ‘Climate change and the duties of the advantaged. *Critical review of international social and political philosophy*, 2010 13(1) *Democracy, Equality, and Justice*, 203-228.

⁴⁸⁸ S Caney, ‘Climate change and the duties of the advantaged. *Critical review of international social and political philosophy*, 2010 13(1) *Democracy, Equality, and Justice* 219.

⁴⁸⁹ C Knight, ‘Climate change and the duties of the disadvantaged: reply to Caney. *Critical review of international social and political philosophy*, (2011) 14(4), 531-542 at 533.

This research does not intend to dwell a detailed argument of the PPP application for historical accountability but rather the use of PPP to reduce emissions of GHG. The PPP is the core aspect of carbon pricing where a carbon tax places ‘a direct price on GHG emissions and requires economic actors to pay for every ton of carbon pollution emitted.’⁴⁹⁰ The aim is to compel polluters to switch from traditional fossil fuel use to cleaner energy as well as to raise revenue.⁴⁹¹ This was the notion driving the Carbon Tax Law of Mexico 2014, Chile Carbon Tax Law 2014, and South Africa Carbon Tax Act 2019 etc.⁴⁹²

In this sense, this research states that the Paris Agreement, particularly Article 5 (2), incorporates PPP when it encourages Parties ‘to take action to implement and support, including through results-based payments...’ and ‘policy approaches and positive incentives for activities relating to reducing emissions.’ The phrases ‘results-based payments’ and ‘positive incentives’ are the PPP in disguise. This is because PPP places a price on GHG emissions and demands emitters to pay for every ton of carbon emitted.⁴⁹³ Therefore, the use of PPP for result based payment to discourage GHG emitters is assessed in the context of Nigeria in chapter four.

3.3.6 PUBLIC PARTICIPATION

⁴⁹⁰ Carbon Pricing Leadership Coalition, available at < <https://www.carbonpricingleadership.org/what> > Accessed 18th May 2020; S Alam, ‘Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 8.

⁴⁹¹ A Pegels, ‘Taxing carbon as an instrument of green industrial policy in developing countries, Discussion paper (2016) 23 Enconstor, at 6-10; A Pegels, Taxing carbon in developing countries (German Development Institute 2018) 1-2.

⁴⁹² Section 3 of the Carbon Tax https://www.gov.za/sites/default/files/gcis_document/201905/4248323-5act15of2019carbontaxact.pdf > accessed 13th June 2019 ; S Alam, ‘Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 8-22.

⁴⁹³ Carbon Pricing Leadership Coalition, available at < <https://www.carbonpricingleadership.org/what> > Accessed 18th May 2020 ;S Alam, ‘Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 8.

Public participation is also known as citizen participation.⁴⁹⁴ Public participation is a vital part of democratic governance.⁴⁹⁵ It seeks to advance the concept that ‘more heads are better than one.’⁴⁹⁶ It is the ‘belief that those who are affected by a decision have a right to be involved in the decision-making process.’⁴⁹⁷

Public participation is considered a principle of international environmental law.⁴⁹⁸ Principle 10 of the 1992 Rio Declaration states that ‘[E]nvironmental issues are best handled with participation of all concerned citizens, at the relevant level.’ Principle 10 further states that individuals shall have appropriate environmental information and be given the opportunity to participate in decision-making processes; the state shall facilitate public awareness by making information widely available and ensuring effective access to judicial proceedings and remedies.

To accelerate the implementation of principle 10, UNEP adopted the Guidelines for the Development of National Legislation on Access to Information, Public Participation and Access to Justice in Environmental Matters.⁴⁹⁹ This means public participation consists of the following: Access to information—requires any person to have affordable, effective, and timely access to environmental information upon demand;⁵⁰⁰ public participation—requires the state to inform the public concerned to an early stage in decision making process;⁵⁰¹ and access

⁴⁹⁴ N Wengert, Citizen participation: practice in search of a theory (1976) 16 Nat. Resources J..23; D M Connor, ‘A new ladder of citizen participation (1988) 77(3), National Civic Review, 249-257.

⁴⁹⁵ The Co Intelligence Institute, Principle of Public Participation available at < [Principles of Public Participation \(co-intelligence.org\)](http://co-intelligence.org) > accessed 14 March 2021.

⁴⁹⁶ Ray Jennings, Participatory Development as New Paradigm: The Transition of Development Professionalism (2000) 5 Washington DC at 1 available at [Wayback Machine \(archive.org\)](http://www.archive.org) > accessed 12 march 2021

⁴⁹⁷ The Co Intelligence Institute, Principle of Public Participation available at < [Principles of Public Participation \(co-intelligence.org\)](http://co-intelligence.org) > accessed 14 March 2021.

⁴⁹⁸ J Bekhoven, ‘Public Participation as a General Principle in International Environmental Law: Its Current Status and Real Impact (2016) 11 NTU L. Rev.219.

⁴⁹⁹ Guidelines for the development of national legislation on access to information, public participation and access to Justice in environmental matters’ (United Nation Environmental Programme 2010) <http://www.unep.org/civil-society/Portals/24105/documents/Guidelines/GUIDELINES_TO_ACCESS_TO_ENV_INFO_2.pdf> assessed 8.

⁵⁰⁰Guideline 1.

⁵⁰¹Guideline 8.

to justice—requires any person to review a procedure in court if a citizen considers that a request to environmental information has been unreasonable refused or ignored.⁵⁰²

Academics in favour of public participation contend that principle 10 of Rio has given the right to citizens to access information, participate in decision-making, and access justice.⁵⁰³ It was argued that government alone could not solve all the environmental problems, and citizens, involvement is needed to proffer solutions to various environmental challenges.⁵⁰⁴ In this sense, citizen participation in environmental decision making is a procedural right and should be considered a fundamental right of environmental protection.⁵⁰⁵ However, critics of public participation maintain that public participation tends to focus on reaching consensus between actors who seek the same values and outcomes.⁵⁰⁶ Citizens and actors come to the discussion with different perspectives of the problems and solutions due to the uncertain nature of environmental issues. This may make it difficult for actors to have consensus positions. Those who hold different viewpoints may feel excluded, marginalised in the environmental decision-making process.⁵⁰⁷

Over the years, the climate change regime has successfully incorporated public participation into the three main climate change instruments. Article 6 (a) (iii) UNFCCC directs parties to

⁵⁰²Guideline 15.

⁵⁰³D Banisar and C Excell, moving from principles to rights: Rio 2012 and access to information, public participation, and justice (2011) 12 Sustainable Dev. L. & Pol'y, 8; E Petkova and G Hoff, 'Closing the gap: Information, participation and justice in decision-making for the environment (FAO 2002); F Coenen, Public participation and better environmental decisions. The promise and limits of participatory processes for the quality of environmentally related decision-making (Springer 2009) 1.

⁵⁰⁴ G Pring and S Y Noé, 'The Emerging International Law of Public Participation Affecting Global Mining, Energy, and Resource Development' in D M Zillman (eds) Human Rights in Natural Resource Development: Public Participation in the Sustainable Development of Mining and Energy Resources, (Oxford University Press 2002) at 76; H Bulkeley, and A Mol, 'Participation and Environmental Governance: Consensus, Ambivalence and Debate' (2003) 12 (2) Environmental Values 143–54 : G Ramos, Public Participation in Environmental Governance' (2008) 7 (21) Globalnation.inquirer.ne at 7.

⁵⁰⁵ A Du Plessis, 'Public Participation, Good Environmental Governance and Fulfilment of Environmental Rights' (2008) 11(2) Potchefstroom Electronic Law Journal 170-201.

⁵⁰⁶ L Pellizzoni, 'Uncertainty and Participatory Democracy', (2003) 12 (2) Environmental Values 195-224.; E Mostert, The challenge of public participation (2003) 5 (2) Water policy,179-197.

⁵⁰⁷S Owens, 'Engaging the public: information and deliberation in environmental policy' (2000)32 Environment and Planning 1141–8; L Sprain, Paradoxes of public participation in climate change governance (2017) 25(1), The Good Society, 62-80.

promote public participation as well as access to information in addressing climate change at the national level.⁵⁰⁸ Related provisions are contained in Article 10 (e) Kyoto Protocol and Article 12 of the Paris Agreement. Aside from the climate change regime, public participation has been accepted in modern constitutions in different nations, recognising the fact that citizens are the ultimate source of power and authority.⁵⁰⁹ This is the motif behind public hearing in the law making process in various democratic governments around the world.⁵¹⁰ Jurisdictions such as the UK and Canadian governments involve citizens in decision-making through large-scale consultation, online discussions, and focus group research.⁵¹¹ This may enhance democratic ideals such as public trust, accountability, and transparency. This also helps create a better feeling of a citizen being part of the government and hold the government accountable.⁵¹² Public participation will be assessed in the context of Nigeria primary climate change-related legislation in chapter 4 of this research.

3.4 GENERAL OBLIGATIONS ARISING FROM THE CLIMATE CHANGE REGIME

The first and last paragraphs of the preamble of UNFCCC clearly states that ‘the Parties to the Convention’ are ‘determined to protect the climate system for present and future generations’ and they ‘have agreed as follows.’⁵¹³ The implication is that every other provision or Articles in the UNFCCC⁵¹⁴ that come after this statement, ‘have agreed as follows’⁵¹⁵ are commitments

⁵⁰⁸ See also Article 6 (a) (ii) UNFCCC.

⁵⁰⁹ See the preamble of Nigeria 1999 Constitution 1999 as Amended.

⁵¹⁰ L Vértesy, *The Public Participation in the Drafting of Legislation in Hungary* 92(16) 14 Int'l Pub. Admin. Rev 115.

⁵¹¹ For instance, the formation of the Federal Sustainable Development Strategy for Canada 2019 To 2022, the minister of Environment provides email address to Canadian to get their opinions and suggestions about the strategy. See the message from the minister, Catherine McKenna, *A Federal Sustainable Development Strategy for Canada 2019 To 2022* at 1.

⁵¹² N Nazrul Islam and Wang Xi, *Environmental Law in Developing Countries: Selected Issues*, (IUCN, 2002) 7.

⁵¹³ See the first and the last paragraphs of preamble of the UNFCCC; corresponding provisions are contained in Kyoto Protocol, See the first and the last paragraphs of the preamble of the Kyoto Protocol, see also Annex of the first and last paragraphs of the Paragraphs Agreement.

⁵¹⁴ Including the Kyoto Protocol and the Paris Agreements.

⁵¹⁵ See the first and the last paragraphs of preamble of the UNFCCC.

or measures agreed by the Parties⁵¹⁶ to be performed to either mitigate or adapt to the changing climate, and they are binding.⁵¹⁷ In this sense, climate change obligations are those activities that Parties to the climate change regime have affirmed and declared to perform in order to fulfil the objective of the climate change regime. These obligations are deduced from the instruments based on what is expected from member nation to perform at domestic level. Some of the key obligations are to incorporate climate change measures into national policies,⁵¹⁸ reduce emissions in the forest sector,⁵¹⁹ develop renewable energy,⁵²⁰ carry out climate change education and report climate change activities.⁵²¹ In this subtopic, the aim is to critically analyse these obligations and show the importance of Parties to incorporate them in national laws, policies, and plans.

3.4.1 REDUCE EMISSIONS FROM THE AGRICULTURE, FORESTRY AND OTHER LAND USE (AFOLU) SECTOR.⁵²²

It was proven that the Earth loses ‘forest area about the size of 40 football fields every minute’⁵²³ to activities such as deforestation, agriculture, and logging.⁵²⁴ These activities

⁵¹⁶ Climate change agreements are like every other international agreement that involve multilateral negotiations by delegates of members where consensus among parties is a requirement ‘on every word of a document’ See P Chasek and W Zartman, *Six Ways to Make Climate Negotiations More Effective* (Policy Brief Fixing Climate Governance Series 2015) at 1; R Eckersley, ‘Moving forward in the climate negotiations: Multilateralism or unilateralism?’ (2012) 12 (2) *Global environmental politics*, 24-42.

⁵¹⁷ Albrecht and B Arts, ‘Climate policy convergence in Europe: an assessment based on National Communications to the UNFCCC (2005)12 (5) *Journal of European Public Policy*, 885-902.

⁵¹⁸ See Article 4 (1) (f), Article 4(2) (a) of the UNFCCC and Article 6 (1) of the Paris Agreement. Discussed in context of Nigeria in chapter four.

⁵¹⁹ See Article 4 (1) c UNFCCC, Article 2 (1) (a) ii, Article 3 (3) Kyoto protocol and Article 5 of the Paris Agreement. Discussed in context of Nigeria in chapter Six.

⁵²⁰ See Article Article 2 (1) (a) (iv) Kyoto Protocol. Discussed in context of Nigeria in chapter Five.

⁵²¹ See Article 6 of the UNFCCC. Discussed in context of Nigeria in chapter Seven.

⁵²² Emission from the AFOLU sector is not limited to deforestation and logging but also includes several agriculture activities such as bush burning, emissions from livestock, soil and nutrient management and many others. See chapter Two; see P Smith and M Bustamante, *Agriculture, Forestry and Other Land Use (AFOLU)*. In: *Climate Change 2014: Mitigation of Climate Change*. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2014 eds) Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, at 816.

⁵²³ UN REDD Programme, ‘Forest Facts,’ Available at < <https://www.un-redd.org/forest-facts> > Accessed 2nd March 2020.

⁵²⁴ UN REDD Programme, ‘Forest Facts,’ Available at < <https://www.un-redd.org/forest-facts> > Accessed 2nd March 2020.

account for over 11% of GHG emissions, second to the energy sector.⁵²⁵ This means the aim of reducing global temperature rise below 2 degrees celsius above pre-industrial levels or to even further to 1.5 degrees celsius⁵²⁶ will be practically impossible without reducing emission from the AFOLU sector.⁵²⁷

The UNFCCC, one of the primary instruments, recognised this fact and placed an obligation on Parties to prevent and reduce emissions from different sectors, including forests.⁵²⁸ The Kyoto Protocol was specific as it encouraged member states to promote sustainable forest management practices to reduce emissions from the forest sector.⁵²⁹ This obligation finds its way to the Paris Agreement. The whole of Article 5 (1) and (2) of the Paris Agreement is dedicated to encouraging Parties to reduce emissions from deforestation and forest degradation in developing countries. Aside from these instruments, there are a couple of decisions reached by the COP, such as the Cancun Agreements,⁵³⁰ the Bali Action Plan,⁵³¹ and several others.⁵³² These decisions are targeted for member states to adopt approaches in order to reduce emissions from deforestation in developing countries.⁵³³

⁵²⁵UN REDD Programme, ‘About REDD+’ available at < <https://www.unredd.net/about/what-is-redd-plus.html> Accessed 2nd March 2020.

⁵²⁶ Article 2 UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

⁵²⁷ UN REDD Programme, ‘About REDD+’ available at < <https://www.unredd.net/about/what-is-redd-plus.html> Accessed 2nd March 2020; P Smith and M Bustamante, Agriculture, Forestry and Other Land Use (AFOLU). In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (2014 eds) Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, at 837.

⁵²⁸ Article 4 (1) c UNFCCC.

⁵²⁹ Article 2 (1) a ii, Article 3 (3) Kyoto protocol.

⁵³⁰ United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1.

⁵³¹ United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its thirteenth session, held in Bali from 3 to 15 December 2007 FCCC/CP/2007/6/Add.1.

⁵³²United Nations Framework Convention on Climate Change, ‘UNFCCC documents relevant for REDD+’ available at < <https://redd.unfccc.int/fact-sheets/unfccc-documents-relevant-for-redd.html> > Accessed 22nd March 2020.

⁵³³ Ibid.

This obligation is fundamental to Nigeria because Nigeria is experiencing a high rate of deforestation.⁵³⁴ This high deforestation has been reflected in the emission trend of Nigeria as the 2018 Biennial Report clearly states that Agriculture, Forestry, and Other Land Use emissions are the highest in the country.⁵³⁵ To this end, the Nigerian government must brace up mitigation and adaptation actions⁵³⁶ in the forest sector. Chapter six of this thesis provides a detailed background of Nigeria's forest-related laws and how the Nigerian government performs to fulfil this obligation under the climate change regime.

3.4.2 DEVELOPMENT AND PROMOTION OF RENEWABLE ENERGY (RE)

In 2010 alone, 'energy supply sector accounts for 49% of all energy related GHG emissions.'⁵³⁷ and presently, it is the highest contributor to the global emissions of GHG.⁵³⁸ There is a consensus agreement by scientists that the use of renewable energy will reduce emissions of GHG.⁵³⁹

⁵³⁴ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 14.

⁵³⁵ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 93-101.

⁵³⁶ Art. 6 (8) (a) 119 UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

⁵³⁷ T Bruckner and X Zhang, 2014: Energy Systems. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [eds 2014] Cambridge University Press, Cambridge, United Kingdom and New York, at 522 available at < https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_chapter7.pdf > Accessed 21 March 2020

⁵³⁸ See also Centre for climate energy solution available at < <https://www.c2es.org/content/international-emissions/> > Accessed 23rd March 2020.

⁵³⁹ W Moomaw and K Urama, 2011: Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. at 167; Z A Elum, and A S Momodu, 'Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach (2017) 76 Renewable and Sustainable Energy Reviews, 72-80 at 72.

It is important to note that international discourse for the use of renewable energy predates the climate change regime. The need for alternative energy began with the fuel crisis in the 1970s⁵⁴⁰ when the Arab nations placed an embargo on the sale of crude oil.⁵⁴¹ This led to the creation of the International Energy Agency in 1973.⁵⁴² Since then, renewable energy has featured in different United Nations agenda, such as the 1981 UN Conference on New and Renewable Sources of Energy Programme of Action,⁵⁴³ the 1992 UN Conference on Environment and Development, and many others.⁵⁴⁴ This thesis will not discuss these instruments as they are outside the scope of this research. The aim of this segment is to examine the climate change instruments and identify the renewable energy development obligation enshrined under the UNFCCC, Kyoto Protocol, and the Paris Agreement.

The climate change regime particularly, the UNFCCC and the Paris Agreement did not specifically mention ‘renewable energy’ as part of the obligation to be performed at the domestic level.⁵⁴⁵ Instead, Article 4 (1) (c) of the UNFCCC placed an obligation on all Parties to promote and cooperate in developing and transferring technology to stop emissions of GHG in different sectors, including energy. Similarly, the Paris Agreement in Article 10 (1) (2) merely noted the importance of developing technology and transfer to reduce emissions of GHG.

⁵⁴⁰W Moomaw and T Urama, T. Weir, 2011: ‘Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [(eds 2011), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA at 177.

⁵⁴¹Ibid.

⁵⁴²R Scott, The History of the International Energy Agency, 1974-1994: IEA, the First 20 Years (OECD/IEA).

⁵⁴³United Nations, Report of the United Nations Conference on New and Renewable Sources of Energy, Nairobi, 1981. Available at <https://digitallibrary.un.org/record/25034?ln=en> .> accessed 12th September 2020.

⁵⁴⁴UN Sustainable Goal Knowledge Platform available at < <https://sustainabledevelopment.un.org/topics/energy/events> > Accessed 20th April 2020; W Moomaw and T Urama, Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [(eds 2011), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA at 177.

⁵⁴⁵L Drake, International law and the renewable energy sector (The Oxford Handbook of International Climate Change Law 2016) 357; A Daly, and C Archbold, ‘Energy Democracy, Renewables and the Paris Agreement. In Intellectual Property and Clean Energy 2018 Springer, Singapore 427-447.

Again, the preamble of the UNFCCC and the Kyoto Protocol talks about ‘energy efficiency.’⁵⁴⁶ Paragraph 22 of the UNFCCC recognised the need of developing countries to grow energy efficiency in controlling GHG emissions.⁵⁴⁷ Similarly, the Kyoto Protocol placed an obligation on each Party listed in Annex 1 to the Convention to further elaborate policies and measures to enhance ‘energy efficiency in relevant sectors of the national economy.’⁵⁴⁸ Note that Article 2 (1) (a) (iv) Kyoto Protocol went further by encouraging Annex I Parties to research, promote and develop ‘new and renewable forms of energy.’ The Kyoto Protocol mentioned ‘energy efficiency’ and ‘renewable energy.’ However, the commitments under the Kyoto Protocol are to be performed by Annex I Parties that is industrialised Party members.⁵⁴⁹

This research is of the view that the provisions of the climate change instruments may not be specific on developing countries to develop RE, especially the Kyoto Protocol but the key principles such as SD and CBDR, which run through the three climate change instruments, suggest that both developed and developing country have obligations in RE development.⁵⁵⁰ For instance, Article 3 (4) of the UNFCCC says the members should promote sustainable development. Article 2 of the Paris Agreement ‘aims to strengthen the global response to the threat of climate change, in the context of sustainable development.’ It was argued that the concept SD means ‘a shift away from energy policy based on finite fossil fuel resources to renewable energy’⁵⁵¹ In this sense, all Parties have an obligation to make policies to promote renewable energy.

⁵⁴⁶ The intention is for developing countries to access resources to achieve sustainable and economic development.

⁵⁴⁷ The last paragraph of UNFCCC.

⁵⁴⁸ Article 2 (1) (a) (i) Kyoto Protocol.

⁵⁴⁹ Article 3 (1) UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

⁵⁵⁰ See 3.5.2 common but differentiated responsibilities (CBDR); L Drake, International law, and the renewable energy sector (The Oxford Handbook of International Climate Change Law 2016) 376.

⁵⁵¹ L Drake, International law, and the renewable energy sector (The Oxford Handbook of International Climate Change Law 2016) 376; S Mustafa and H Salvarli, ‘For Sustainable Development: Future Trends in Renewable Energy and Enabling Technologies Resources, Challenges and Applications (Intech Open 2020) 3; J Sathay and A Shmakin, Renewable energy in the context of sustainable development (2011) ecommons ; E Colombo, Renewable energy for unleashing sustainable development. United Kingdom (Springer 2013); G Büyüközkan, A

Regarding the CBDR, this thesis argues that the CBDR is for all parties to act according to their capacity, and as such Nigeria must act based on its capacity in developing renewable energy. Again, the sixteenth session of COP16 held in Cancún established the Green Climate Change Fund to meet the requirement of Article 11 of UNFCCC.⁵⁵² One of the targets of this fund is renewable energy projects to mitigate the emissions of GHG.⁵⁵³ All these points to the fact that developing countries, including Nigeria, where the NDC focuses on renewable energy,⁵⁵⁴ are under obligation to promote and develop renewable energy to mitigate GHG emissions at the domestic level. Chapter five of this thesis critically discussed what the Nigerian government is doing to achieve this obligation.

3.4.3 CLIMATE CHANGE EDUCATION

Climate change education and awareness are recognised in Article 6 of the UNFCCC. This Article enjoins Parties to promote climate change education and awareness at the national level. Article 6 advised that national laws and policies should be tailored towards: the development and implementation of educational and public awareness programmes on climate change; public access to information on climate change; public participation in addressing climate change; and training of scientific, technical, and managerial personnel.

Article 6 of the UNFCCC reflects in Article 10 (e) of the Kyoto Protocol and Article 12 of the Paris Agreement. Aside from these instruments, climate change education and awareness also

novel renewable energy selection model for United Nations' sustainable development goals (2018) 165 Energy 290-302.

⁵⁵² See Decision 1/CP.16 The Cancun Agreements UN General Assembly, United Nations Framework Convention on Climate Change: Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1 < [Microsoft Word - cp7a1.doc \(unfccc.int\)](#) > Accessed 16th September 2021.

⁵⁵³ L Drake, International law, and the renewable energy sector (The Oxford Handbook of International Climate Change Law 2016) 366.

⁵⁵⁴ See 3.9 comparing the NDC target areas with the key emission drivers in Nigeria.

surfaced on the Global Action Programme for Education for Sustainable Development⁵⁵⁵ and the Bali Guidelines.⁵⁵⁶ The reason for climate change education and awareness is to ensure citizens of various countries, ages, and walks of life should be aware of the danger climate change poses to access information and be part of decision-making freely.⁵⁵⁷

The benefit of climate change education and awareness will help increase understanding of both mitigation and adaptation measures.⁵⁵⁸ Climate change education will bring more people on board, especially young people, to participate in the present climate change campaign.⁵⁵⁹ Buttressing this fact, Christiana Figueres, Executive Secretary of the UNFCCC at the second Dialogue on Article 6 of the UNFCCC held in Bonn, Germany 2014, said climate change education is ‘to engage individuals and enable them to be part of the solution.’⁵⁶⁰ To this end, this research in chapter seven discusses the capacity of the climate change-related institutions in Nigeria to sensitise and engage the citizens to be part of climate change activities at the national level.

⁵⁵⁵See the objective ‘Global Action Programme on Education for Sustainable Development’ > <https://en.unesco.org/gap>> accessed 13th July 2019.

⁵⁵⁶ Putting Rio Principle 10 Into Action an Implementation Guide (United Nations Environment Programme (UNEP 2015) > <https://wedocs.unep.org/bitstream/handle/20.500.11822/11201/UNEP%20MGSB-SGBS%20BALI%20GUIDELINES-Interactive.pdf?sequence=1&%3BisAllowed=y>> accessed 2nd July 2019

⁵⁵⁷ Action for Climate Empowerment: Guidelines for accelerating solutions through education, training and public awareness (UNESCO and UNFCCC 2016) at 3 available at https://unfccc.int/sites/default/files/action_for_climate_empowerment_guidelines.pdf <accessed 5th July 2019.

⁵⁵⁸ United Nations Climate Change ‘Article 6: Climate Education and Training’ <<https://unfccc.int/news/article-6-climate-education-and-training>> accessed 11th February 2019.

⁵⁵⁹ UNESCO ‘Climate Change Education and Awareness’ <<https://en.unesco.org/themes/addressing-climate-change/climate-change-education-and-awareness>> accessed 12 February 2019.

⁵⁶⁰United Nations Climate Change ‘Article 6: Climate Education and Training’ <<https://unfccc.int/news/article-6-climate-education-and-training>> accessed 11th February 2019; <https://unfccc.int/process-and-meetings/conferences/past-conferences/bonn-climate-change-conference-june-2014/events-and-programme/mandated-events/2nd-dialogue-on-article-6-of-the-convention> accessed 11th February 2019; United Nations Climate Change ‘Article 6: Climate Education and Training’ <<https://unfccc.int/news/article-6-climate-education-and-training>> accessed 11th February 2019.

3.4.4 DUTY OF REPORTING CLIMATE CHANGE ACTIVITIES

The reporting duties are recognised by Articles 4 and 12 UNFCCC and Article 13 (7) of the Paris Agreement. The combined effect of these provisions is that all Parties to the climate change regime are expected to develop regional development priorities and report to the COP ‘a national inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol...’.⁵⁶¹ The COP is the apex decision making body of the UNFCCC. One of the primary functions of the COP is to review the level of implementation of reports submitted by member states of the UNFCCC and adopt and take a decision that is necessary for the successful implementation of the UNFCCC.⁵⁶²

Reporting of national inventory means the communication of information related to the implementation of the climate mitigation and adaptation actions are taken at the national levels. The Paris Agreement refers to this as a transparency framework.⁵⁶³ The importance of a transparency framework or reporting cannot be over emphasised; it does help the COP understand the current emissions profiles, which will enable to estimate emission reduction, and most importantly, ‘allows future emissions to be targeted more effectively.’⁵⁶⁴ The transparency framework recognised are ‘national communications, biennial reports, and biennial update reports, international assessment and review and international consultation and analysis.’⁵⁶⁵

⁵⁶¹ Article 4 (1) a UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

⁵⁶² United Nations Climate Change, Conference of the Parties > <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>> accessed 14th July 2019.

⁵⁶³ Article 13 (3) of the Paris Agreement.

⁵⁶⁴ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 136; W Obergassel and H Wang-Helmreich, ‘Phoenix from the ashes: an analysis of the Paris Agreement to the United Nations Framework Convention on Climate Change; part 1.

⁵⁶⁵ Article 13 (4) Paris Agreement.

By virtue of Article 12 of the UNFCCC, communication of information related to implementation is compulsory by all the members of the convention. However, Article 4 (1) (a) of the UNFCCC is to the effect that reporting should be done by taking into account the CBDR. This means the manner of reporting by developed country Parties and the developing country Parties are not the same as developed countries. Developed countries are expected to include ‘a detailed description of the policies and measures that it has adopted to implement its commitment’.⁵⁶⁶

This does not exempt developing countries from giving a detailed report regarding its effort in national implementation. In fact, there are some instances where the COP specifically calls upon developing countries to perform its reporting duties in the fight against climate change. The COP’s subsequent decision affirms this position.⁵⁶⁷ Paragraph 60 (c) of the 16th Session of the COP held in Cancun from 29 November to 10 December 2010 provides that:

Developing countries, consistent with their capabilities and the level of support provided for reporting, should also submit biennial update reports containing updates of national greenhouse gas inventories, including a national inventory report and information on mitigation actions, needs and support received.⁵⁶⁸

Biennial Reports are reports prepared by developing countries to the UNFCCC containing updates of national GHG inventories, including action taken such as mitigation and adaptation

⁵⁶⁶ Article 12 (2) a UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018]; Article 13 (1) Paris Agreement.

⁵⁶⁷The COP was established under Article 7 of the UNFCCC. The COP is the apex decision making body of the UNFCCC. All parties who are member of the UNFCCC are well represented at the COP; the COP meets every year. The COP has held about 24 sessions since its establishment. This is to effectively implement the UNFCCC including the Kyoto Protocol and the Paris Agreement. United Nations Climate Change > <https://unfccc.int/process/bodies/supreme-bodies/conference-of-the-parties-cop>> accessed 12th February 2019.

⁵⁶⁸ United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1.

options to reduce GHG emissions.⁵⁶⁹ Developing country Parties are to submit their Biennial Update Report to the COP every two years.⁵⁷⁰ However, the obligation given for Least Developed Country Parties (LDCs) and Small Island Developing States (SIDS) are flexible as they are expected to submit their report at their discretion.⁵⁷¹ As a developing country, Nigeria is expected to report climate change measures taken at the national level to the secretary of COP for effective monitoring and implementation. Nigeria's compliance with the reporting obligation is analysed in chapter seven of this thesis.

3.4.5 INTEGRATION OF CLIMATE CHANGE MEASURES INTO NATIONAL POLICIES

Integration of climate change actions into national policies means that member states have a responsibility to implement whatever they have agreed at the national level. The best way to do this is to incorporate climate change measures—mitigation and adaptation plans at the international level into domestic laws, regulations, policies, and plans. This integration obligation is enshrined under Article 4 (1) (f), Article 4(2) (a) of the UNFCCC, and Article 6 (1) of the Paris Agreement. According to Article 4(2) (a) '[E]ach of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs.'⁵⁷²

⁵⁶⁹United Nations Climate Change, Biennial Update Reports, available > <https://unfccc.int/process/transparency-and-reporting/reporting-and-review-under-the-convention/biennial-update-reports-and-international-consultation-and-analysis-non-annex-i-parties/biennial-update-reports> > accessed. 14 October 2018.

⁵⁷⁰ Paragraph 41 (f) Decision 1/CP.17 of the Report of the COP on its seventeenth session, held in Durban from 28 November to 11 December 2011.

⁵⁷¹ See Paragraph 41 (a) and (f) Decision 1/CP.17 of the Report of the COP on its seventeenth session, held in Durban from 28 November to 11 December 2011.

⁵⁷²Article 4(2) (a) (b) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

This research argues that the integration of climate change obligation is one of the essential obligations under the climate change regime. The climate change principles and the obligations such as the reduction of emissions in the forest sector,⁵⁷³ develop and improve renewable energy,⁵⁷⁴ initiate climate change education and awareness,⁵⁷⁵ the Nationally Determined Contributions pledges under the Paris Agreement⁵⁷⁶ cannot be achieved if domestic governments do nothing to incorporate these obligations and enforce them. In other words, the achievement of the Paris Agreement, that is, to keep global temperature rise below 2 degrees Celsius above pre-industrial levels,⁵⁷⁷ is directly dependent on the national governments' actions to initiate policies and incorporate the climate change obligations. This means member states at the national level, specifically the legislature and the executive arms on whom the power to make laws and policies lie, have a duty to make new laws, initiate policies, and improve the existing laws and policies to incorporate climate change principles and obligations. Research by the Graham Institute shows that different national governments, both developed and developing governments, have developed laws and policies since the adoption of the UNFCCC, Kyoto Protocol, and the Paris Agreement.⁵⁷⁸ The United Kingdom has made about 14 laws and 12 polices,⁵⁷⁹ South Africa 7 laws and 9 policies,⁵⁸⁰ Kenya 4 laws and 10 policies, Bolivia 4 laws and 10 policies, India 5 laws and 13 policies,⁵⁸¹ and Nigeria the focus of this

⁵⁷³ Article 4 (1) c of UNFCCC, Article 2 (1) a ii Kyoto protocol.

⁵⁷⁴ Article 2 (1) I the Kyoto Protocol.

⁵⁷⁵ Article 6 of the UNFCCC has reflected in Article 10 (e) of the Kyoto Protocol and Article 12 of the Paris Agreement.

⁵⁷⁶ Discussed in section 3.5 [the Paris agreement and nationally determined contribution NDC](#).

⁵⁷⁷ Article 2 UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

⁵⁷⁸ Laws in this context means legislation while policies refer to climate change plans and strategies mostly initiated by the Executive arm of the government.

⁵⁷⁹ Grantham Research Institute on Climate Change and the Environment, Laws and Polices of United Kingdom available at < [United Kingdom - Climate Change Laws of the World \(climate-laws.org\)](#) > accessed 12 February 2021.

⁵⁸⁰ Grantham Research Institute on Climate Change and the Environment, Laws and Polices of South Africa at < [South Africa - Climate Change Laws of the World \(climate-laws.org\)](#) > accessed 12 February 2021.

⁵⁸¹ Grantham Research Institute on Climate Change and the Environment, Laws and Polices of India available at < [India - Climate Change Laws of the World \(climate-laws.org\)](#)

thesis, has made about 1 law and 8 policies.⁵⁸² The number of laws and policies recorded by Graham Institute may not be exact as countries continue to improve national laws to achieve climate change targets.

The point is that the existing laws and policies, especially the Nigerian government has made directly or indirectly related to climate change, should recognise climate change obligations. This may help the Nigerian government at the national level address climate change and achieve its climate change obligations in the nearest future. Chapter 4 of this thesis assesses the incorporation of the principles of climate change in the context of Nigeria's key climate change-related laws. Chapter 5 assesses the recognition of the renewable energy obligation in the context of Nigeria's climate change policies, while chapter 6 critically assesses the integration of the AFOLU obligation in the existing climate change related policies of Nigeria.

3.5 THE ROLE OF ENVIRONMENTAL PRINCIPLE IN RELATION TO NIGERIA'S CLIMATE CHANGE OBLIGATIONS

Some of the environmental principles have a clear relationship with the climate change Obligations. For instance, environmental principle such as the PPP has a relationship with GHG emission reduction. The PPP is the core aspect of carbon pricing where a carbon tax places 'a direct price on GHG emissions and requires economic actors to pay for every ton of carbon pollution emitted.'⁵⁸³ The aim is to compel polluters to switch from traditional fossil fuel use to cleaner energy as well as to raise revenue.⁵⁸⁴ This

⁵⁸² > accessed 12 February 2021.

⁵⁸² Grantham Research Institute on Climate Change and the Environment, Laws and Polices of Nigeria available at < [Nigeria - Climate Change Laws of the World \(climate-laws.org\)](https://climate-laws.org) > accessed 12 February 2021.

⁵⁸³ Carbon Pricing Leadership Coalition, available at < <https://www.carbonpricingleadership.org/what> > Accessed 18th May 2020; S Alam, 'Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 8.

⁵⁸⁴ A Pegels, 'Taxing carbon as an instrument of green industrial policy in developing countries, Discussion paper (2016) 23 Enconstor, at 6-10; A Pegels, Taxing carbon in developing countries (German Development Institute 2018) 1-2.

is one of the key obligations discussed in section 3.4.2 DEVELOPMENT AND PROMOTION OF RENEWABLE ENERGY (RE) which is about deploying RE to reduce GHG emissions. Again, Sustainable Development as an environmental principle has a direct link to climate change obligations such as the development and promotion of renewable energy (RE). SD as a concept is defined as 'a shift away from energy policy based on finite fossil fuel resources to renewable energy.'⁵⁸⁵ This means that SD aims to promote renewable energy which is also the intention of RE development obligation contained in Article 10 (1) and (2) of the Paris Agreement.

However, it is important to note that Renewable energy development obligation is derived from the Paris Agreement in Article 10 (1) (2). This Article states the importance of developing technology and transfer to reduce GHG emissions. The Paris Agreement has lowered the strict division of industrialised and developing countries recognised in the Kyoto Protocol. This means developing countries have a responsibility to develop renewable energy based on their capacities, this is why most developing countries in their NDCs pledged to improve and develop renewables including Nigeria by 2030. As rightly said to achieve the Paris 1.5-degree celsius both develop and developing countries must double their pledge of renewable energy development.⁵⁸⁶

3.6 THE PARIS AGREEMENT AND NATIONALLY DETERMINED CONTRIBUTION (NDC)

As already noted above, the Paris Agreement has a second aspect known as Nationally Determined Contribution (NDC).⁵⁸⁷ The NDCs are activities and targets member states to the Paris Agreement voluntarily embark on at the national level to address climate change and

⁵⁸⁵ L Drake, International law, and the renewable energy sector (The Oxford Handbook of International Climate Change Law 2016) 376; S Mustafa and H Salvarli, 'For Sustainable Development: Future Trends in Renewable Energy and Enabling Technologies Resources, Challenges and Applications (Intech Open 2020) 3; J Sathay and A Shmakin, Renewable energy in the context of sustainable development (2011) ecommons; E Colombo, Renewable energy for unleashing sustainable development. United Kingdom (Springer 2013); G Büyüközkan, A novel renewable energy selection model for United Nations' sustainable development goals (2018) 165 Energy 290-302.

⁵⁸⁶ United Nations Climate Change, Clean Energy Can Meet 90% of Paris Energy-Related Goals < [Clean Energy Can Meet 90% of Paris Energy-Related Goals | UNFCCC](#) > Accessed 3rd March 2022.

⁵⁸⁷ See section 3.2.3 Paris Agreement.

fulfil the objective of the Paris Agreement.⁵⁸⁸ In this segment, the focus is the development of the NDCs, the significance of the NDC, especially the Nigeria NDC at the national level.

3.6.1 THE DEVELOPMENT OF THE NDCs

During the negotiation of the Paris Agreement, COP 19 (2013) suggested a bottom-up approach⁵⁸⁹ to achieving the Paris Agreement's objectives.⁵⁹⁰ One way to achieve the Paris Agreement is to strengthen national 'preparation for Intended Nationally Determined Contributions (INDC)' to fulfil the objectives of the Paris Agreement.⁵⁹¹

The word 'intended' used in the phrase, **Intended** Nationally Determined Contributions (INDCs) was meant to show that whatever contributions member states were intended were 'mere intentions' with the aim of validating or formalizing them once the Paris Agreement had been adopted.⁵⁹²

The major reason for the INDCs is to avoid a situation where the Paris Agreement will be adopted without ambitious plans and targets from the Parties regarding reducing GHG emissions. In this sense, INDCs are initial plans by the Parties to cut down the emissions of GHG.⁵⁹³ Before the Paris Agreement was adopted, almost all members had submitted their INDCs.⁵⁹⁴ By virtue of adopting the Paris Agreement it has changed the positions of the INDCs as an initial plan to Nationally Determined Contributions (NDCs).⁵⁹⁵ This means the initial plans and targets in the INDCs to cut down emissions are considered Parties benchmark after adopting the Paris Agreement. According to the twenty first session held in Paris, 'the first

⁵⁸⁸F-Z Taibi and S Konrad, Pocket Guide to NDCs under the UNFCCC (ecbi 2018) 1.

⁵⁸⁹E Northrop and R Song, 'Examining the alignment between the intended nationally determined contributions and sustainable development goals (2016) World Resources Institute at 9.

⁵⁹⁰United Nations Framework Convention on Climate Change, eHandbook ><https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime>> accessed 2nd November 2018.

⁵⁹¹Ibid.

⁵⁹²Ibid.

⁵⁹³ Ibid, F-Z Taibi and S Konrad, Pocket Guide to NDCs under the UNFCCC (ecbi 2018) 1-2.

⁵⁹⁴Ibid.

⁵⁹⁵ Ibid.

NDC of each Party will be its INDC at the time of ratification of the Paris Agreement unless the Party decides otherwise.⁵⁹⁶

The NDCs are very important. This is because the NDCs are recognised in Articles 3 and 4 of the Paris Agreement. It allows each member to make pledges and targets towards the fulfillment of the Paris Agreement based on countries circumstances, resources, and capabilities.⁵⁹⁷ The NDCs symbolise the efforts each of the Parties at the national level to mitigate and adapt to climate change in order to achieve the Paris Agreement. The achievement of the NDCs at the national level determine the achievement of the long-term goal of the Paris Agreement, which is why the NDCs are described the heart of the Paris Agreement.⁵⁹⁸

3.6.2 THE NIGERIA NDC

About 191 countries have submitted their first NDCs showing specific areas Parties intend to concentrate at the national level.⁵⁹⁹ Nigeria submitted its NDC on the 28th November 2015.⁶⁰⁰ On the face of the NDC, Nigeria projected a specific and precise commitment to reduce the emissions of GHG domestically with a benchmark 45% before 2030. To achieve the 45% reduction of GHG emissions means the country will do the following:

⁵⁹⁶Ibid.

⁵⁹⁷ See generally Article 4 of the Paris Agreement.

⁵⁹⁸United Nations Climate Change, Nationally Determined Contributions (NDCs) available at < [Nationally Determined Contributions \(NDCs\) | UNFCCC](#) . accessed 10 March 2021; W P and A Rudloff, 'Beyond headline mitigation numbers: we need more transparent and comparable NDCs to achieve the Paris Agreement on climate change (2018) 147(1), *Climatic Change*, 23-29 at 23. However, UNEP Report of emission gap states that current commitments expressed by all the NDCs are not ambitious enough to achieve the Paris Agreement by 2030 see A Olhoff, *Emissions Gap Report* (UNEP 2019); M Mills-Novoa, and D M Liverman, *Nationally Determined Contributions: Material climate commitments and discursive positioning in the NDCs*. *Wiley Interdisciplinary Reviews* (2019) 10(5), *Climatic Change*, 589.; L C King and J C Van Den Bergh, *Normalisation of Paris agreement NDCs to enhance transparency and ambition*. (2019) 14(8) *Environmental Research Letters*, 8

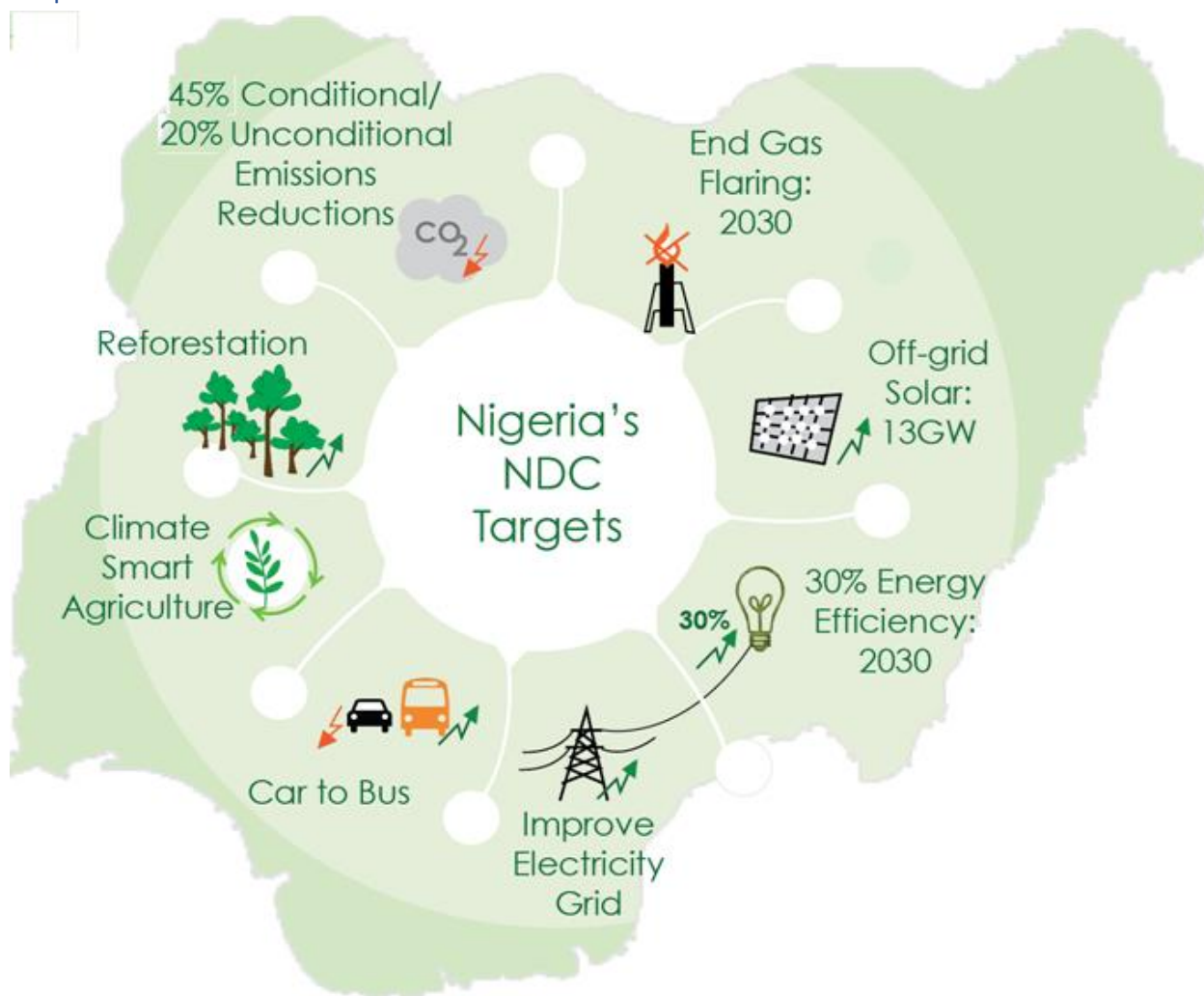
⁵⁹⁹ NDC Registry available at [All NDCs \(unfccc.int\)](#) > Accessed 22 March 2021

⁶⁰⁰INDCs as communicated by Parties <<https://www4.unfccc.int/sites/submissions/INDC/Submission%20Pages/submissions.aspx>> Accessed 20 November 2018.

- a. Work towards ending gas flaring by 2030
- b. Work towards Off-grid solar PV of 13GW (13,000MW)
- c. Efficient gas generators
- d. 2% per year energy efficiency (30% by 2030)
- e. Transport shift car to bus
- f. Improve electricity grid
- g. Climate-smart agriculture and reforestation.⁶⁰¹

⁶⁰¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11

Figure 3.1 Nigeria’s Nationally Determined Contribution (NDC) Implementation.⁶⁰²



One point to note is that Nigeria’s pledge is very ambitious compared to other countries’ pledges. For instance, the EU and its member states committed to a domestic reduction of 40% by 2030.⁶⁰³ The United States is between ‘26%-28% below its 2005 level in 2025’⁶⁰⁴ Canada,

⁶⁰² Copied from Department of Climate Change Federal Ministry of Environment available on > <http://climatechange.gov.ng/nationally-determined-contribution-ndc-implementation/>> accessed 23 December 2018

⁶⁰³ Intended Nationally Determined Contribution of the EU and its Member States (2015) available at <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20Kingdom%20of%20Great%20Britain%20and%20Northern%20Ireland%20First/LV-03-06-EU%20INDC.pdf> > Accessed 20th January 2020.

⁶⁰⁴ intended nationally determined contribution of the United State of America available at < <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First/U.S.A.%20First%20NDC%20Submission.pdf> > Accessed 20th January 2020.

30% reduction below 2005 levels by 2030.⁶⁰⁵ However, Nigeria committed to a 45% reduction by 2030.

Note that Nigeria's NDC contains both conditional and unconditional contributions for the reduction of GHG. The unconditional contribution means Nigeria will make an unconditional 20% reduction of GHG emissions below business-as-usual with the current development trends and the present policies available in the country to fight against climate change.⁶⁰⁶ This means that Nigeria will only achieve a 20% reduction of GHG by 2030 if the government receives no aid (financial support, technology transfer, and capacity building) from developed countries.⁶⁰⁷ On the other hand, conditional contribution means the country will reduce emission to 45% below business-as usual with international support such as finance, technology, and capacity building.⁶⁰⁸ Whether conditional and unconditional, Nigeria now has a specific emission reduction target under the Paris Agreement,⁶⁰⁹ unlike the Kyoto Protocol.

Again, the NDCs are to be achieved by 2030.⁶¹⁰ In other words, there is a time limit to achieve a 45% reduction target. Mathematically, from 2021 to 2030 when the targets will be achieved,

⁶⁰⁵Canada's 2017 Nationally Determined Contribution Submission To The United Nations Framework Convention On Climate Change available at < <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Canada%20First/Canada%20First%20NDC- Revised%20submission%202017-05-11.pdf> > accessed 20th January 2020.

⁶⁰⁶Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 9.

⁶⁰⁷ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 9.

⁶⁰⁸ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 9.

⁶⁰⁹ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 1-3.

⁶¹⁰Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 1-3.

that is, about 9 years away. Nigeria, as a developing country, has a lot to do in order to achieve these targets. As Article 4 (2) of the Paris Agreement says, each Party submitting NDCs should 'pursue domestic measures to achieve them.' Parties are expected to communicate their NDC every 5 years.⁶¹¹

3.6.3 COMPARING THE NIGERIA NDC TARGET AREAS WITH THE KEY EMISSION DRIVERS IN NIGERIA

The Nigeria NDC specifically highlighted some key areas (see target areas (a-g) mentioned above⁶¹²) where the Nigerian government will channel its laws and policies in order to achieve the 2030 targets under the Paris Agreement.

Critical assessment of the Nigerian government's key areas pinpointed in the NDC unveils that (a-f) addresses energy⁶¹³ while (h) addresses climate-smart agriculture and reforestation.⁶¹⁴ Although no justification is given by the Nigerian government as to why the NDC focus is on energy and forest, and agriculture. The apparent reason that can be adduced from the key target areas could be that forests and energy are the key areas with high GHG emissions.⁶¹⁵ For instance, the emission levels of the various sectors are Agriculture, Forestry and Other Land Use 66.9%, energy 28.2% and the rest, waste 3.0% and Industrial Processes and Product 1.9%.⁶¹⁶ In other words, the NDC sufficiently targets energy and forest as key areas in Nigeria

⁶¹¹ Article 4 (9) UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 [accessed 19 November 2018].

⁶¹² Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 27.

⁶¹³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

⁶¹⁴ Ibid.

⁶¹⁵ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 93.

⁶¹⁶ See chapter two at Section 2.4 the drivers of climate change in Nigeria.

to reduce GHG emissions. This means this research will critically assess the role of the existing energy and forest policies in Nigeria particularly in relation to how they will help the Nigerian government to reduce emissions of GHG in chapters five and six

One important point to note is that the NDC does not clearly pinpoint any targets or plans to achieve a certain percent of emission reduction in both waste and industry sectors that emit GHG. The targets (a-g) highlighted in the Nigeria NDC are all about energy and agriculture, and afforestation. Waste and industry appear to have been neglected by the Nigeria NDC. Though, there are existing regulations which could help the Nigerian government achieve emissions reduction in both waste and industry sectors.⁶¹⁷ Chapter four discusses some of the regulations initiated by the Nigerian Parliament regarding emission in the waste and industry.

3.7 THE SUSTAINABLE DEVELOPMENT GOALS (SDGs)

The SDGs are 17 aspirational goals and 169 associated targets agreed on and adopted by the United Nations to replace the Millennium Development Goals (MDGs) in 2015.⁶¹⁸ After the expiration of the MDGs in 2015, the United Nations adopted the current SDGs in continuation of the MDGs, and most importantly, part of the 2030 Agenda for Sustainable Development. Among the 17 goals, SDGs 7 and 15 have synergy with the climate change obligations and the Nigeria NDC. Therefore, sections 3.6.1, 3.6.2, and 3.6.3 below assess the relationship between climate change obligations, key SDGs, and the Nigeria NDC and the benefits of linking the climate change obligations to key SDGs and the Nigeria NDC.

⁶¹⁷The National Environmental (Sanitation and Wastes Control) Regulations, 2009 and National Environmental Protection (Effluent Limitation) Regulations 1991.

⁶¹⁸Millennium Development Goals and beyond 2015 ><https://www.un.org/millenniumgoals/>> Accessed 14 November 2018.

3.7.1 SYNERGIES BETWEEN SDGs THE NIGERIA NDC AND CLIMATE CHANGE OBLIGATIONS

SDG targets 15.2 and 15.3⁶¹⁹ deal with combating desertification and sustainable management of all forests. This goal is linked to the obligations enshrined in the traditional climate change instrument such as Article 2 (1) (a) (ii) Kyoto Protocol; Article 5 (2) Paris Agreement, which emphasised sustainable forest management practices.⁶²⁰ It is important to note that the Nigeria NDC contains climate-smart agriculture and reforestation,⁶²¹ which is in line with the sustainable forest management.

Again, SDG targets 7:1, 7:2, and 7:3 deal with the development of renewable energy. These targets have a direct link with Article 2 (1) (i) Kyoto Protocol, (Article 10 (1) (2) Paris Agreement), which emphasised the development of renewables. The Nigeria NDC also highlighted renewable energy targets to be implemented in Nigeria, such as work towards off-grid solar PV of 13GW (13,000MW), 2% per year energy efficiency (30% by 2030); improve electricity grid etc.⁶²² These renewable energy targets of the Nigeria NDC are in line with SDG 7 and the renewable energy obligation of climate change instruments.

⁶¹⁹ UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2020].

⁶²⁰ See chapter five.

⁶²¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

⁶²² Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

3.7.2 ASSESSMENT OF THE SYNERGIES BETWEEN CLIMATE CHANGE OBLIGATIONS, SDGs, AND THE NIGERIA NDC

There are emerging researches on the integration of climate change and SDG.⁶²³ This thesis is aware of some research that links SDG 13 to other SDGs.⁶²⁴ For instance, SDG 13 linkages to Goal 2 – Zero hunger, Goal 3– Good health and well-being, Goal 6 – Clean water and sanitation, Goal 7 – Affordable and clean energy, and Goal 14 – Life below water.⁶²⁵ In the same manner, the European Environment Agency’s publication strictly linked SDG 13 to other SDGs, especially Goal 1 (no poverty).⁶²⁶

Nerini and Milligan elaborated on the possible alignment of climate change and SDG. They acknowledged that in most countries, climate change and sustainable development remain

⁶²³P Antwi-Agyei and C Stringer, Identifying Opportunities for Coherence between the Intended Nationally Determined Contributions, and the Sustainable Development Goals: The Case of ECOWAS Member States (Sustainability Research Institute School of Earth and Environment 2017) 5; The State of The World’s Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 100-107 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020; Climate Change and SDG Synergy Conference, BACKGROUND PAPER

Leveraging Climate Change and SDG Interlinkages: Country Experiences (TERI School of Advanced Studies for UN DESA 2019) available at < https://sustainabledevelopment.un.org/content/documents/22155Background_PaperTERILeveraging_Climate_Change_and_SDG_Interlinkages.pdf > Accessed 2nd April 2019 ; Food and Agriculture Organization of the United Nation, Climate-smart agriculture Sustainable Development Goals, Mapping interlinkages, synergies and trade-off s and guidelines for integrated implementation (Food and Agriculture Organization of the United Nations Rome, 2019) 84-101 available at< <http://www.fao.org/3/ca6043en/ca6043en.pdf> > Accessed 2nd February 2020; V Masson-Delmotte and T Waterfield, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [(eds.)]. In Press at 19 -20 available at https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf > Accessed 3rd March 2019.

⁶²⁴ D Le Blanc, ‘Towards integration at last? The sustainable development goals as a network of targets’ (2015) 23(3) Sustainable Development 176-187 at 180 ; Social vulnerability to climate change in European cities – state of play in policy and practice ; < <https://sdg.iisd.org/news/publications-explore-intersections-among-sdg-13-and-sdgs-1-8-10-11/>> accessed 10th July 2019.

⁶²⁵SDG 13: Climate action Take urgent action to combat climate change and its impacts > <https://dm.pwc.com/SDGSelector/Resources/13.pdf>> accessed December 2018; D Le Blanc, ‘Towards integration at last? The sustainable development goals as a network of targets’ (2015) 23(3) Sustainable Development 176-187 at 180.

⁶²⁶ Social vulnerability to climate change in European cities – state of play in policy and practice; < <https://sdg.iisd.org/news/publications-explore-intersections-among-sdg-13-and-sdgs-1-8-10-11/>> accessed 10th July 2019.

separated.⁶²⁷ According to them, ‘capitalizing on synergistic actions can enable both sets of objectives to be met more quickly, efficiently and effectively.’⁶²⁸

Antwi-Agyei and Dougill investigated the alignment of SDG and NDC.⁶²⁹ They examined NDCs submitted by 11 West African states and their link to key SDGs.⁶³⁰ Their investigation show strong commitment of West African countries to food security which can be aligned with related SDGs.⁶³¹ They argued that this alignment provides opportunities for national development on the low carbon pathway.⁶³² A similar synergistic approach can be followed in Nigeria to align Nigeria’s climate change obligations,⁶³³ key SDGs, and the Nigeria NDC. The alignment of climate change obligation with related SDGs and the Nigeria NDC is critically discussed in the context of the energy and forest obligations in (chapters five and six of this thesis).

However, it is important to note that the SDGs are not binding.⁶³⁴ They are mere aspirational targets⁶³⁵ that are different from the binding climate change conventions and protocol. Even

⁶²⁷ F F Nerini and B Milligan, B., 2019. ‘Connecting climate action with other Sustainable Development Goals. (2019) 2 (8) *Nature Sustainability* 674-680 at 678.

⁶²⁸ F F Nerini and B Milligan, B., 2019. ‘Connecting climate action with other Sustainable Development Goals. (2019) 2 (8) *Nature Sustainability* 674-680 at 678.

⁶²⁹ P Antwi-Agyei and A Dougill, *How best to align planning for Nationally Determined Contributions and Sustainable Development Goals: West African Lessons*, (Sustainability Research Institute School of Earth and Environment 2018) 2.

⁶³⁰ *Ibid* 2

⁶³¹ Such as SDGs (1, 2, 6, 7, 13 and 15) *Ibid* 2.

⁶³² P Antwi-Agyei and A Dougill, *How best to align planning for Nationally Determined Contributions and Sustainable Development Goals: West African Lessons*, (Sustainability Research Institute School Of Earth And Environment 2018) 5 ; P Antwi-Agyei and A Dougill, ‘Alignment between nationally determined contributions and the sustainable development goals for West Africa (2018) 18 (10) *Climate Policy*, 1296-1312 at 1296; P Antwi-Agyei and C Stringer, *Identifying Opportunities for Coherence between the Intended Nationally Determined Contributions and the Sustainable Development Goals: The Case of ECOWAS Member States* (Sustainability Research Institute School Of Earth And Environment 2017) 8 ..

⁶³³ Article 2 (1) a ii Kyoto Protocol; Article 5 (2) Paris Agreement.

⁶³⁴ See the preamble, particularly ‘the vision’ of the SDG UN General Assembly, *transforming our world: the 2030 Agenda for Sustainable Development*, 21 October 2015, A/RES/70/1, available at: <https://www.refworld.org/docid/57b6e3e44.html> [accessed 28 December 2018; Janoušková, S., Hák, T. and Moldan, B., 2018. *Global SDGs Assessments: Helping or Confusing Indicators?* *Sustainability*, 10(5), p.1540.

⁶³⁵ Paragraph 55 UN General Assembly, *transforming our world: the 2030 Agenda for Sustainable Development*, 21 October 2015, A/RES/70/1, available at: <https://www.refworld.org/docid/57b6e3e44.html> [accessed 28 December 2018; K. Shamin and R Kibugi, ‘Brief on Sustainable Development Goal 13 on Taking Action on Climate Change and Its Impacts: Contributions of International Law, Policy and Governance’ (2017) 13 *McGill J. Sust. Dev. L* 183.

though the SDGs are not binding, the objectives of the SDGs reaffirm the key obligations of climate change instruments. For instance, the SDGs' preamble acknowledged that the UNFCCC remains 'the primary international, intergovernmental forum for negotiating the global response to climate change.' More importantly, the various targets in SDG 13⁶³⁶ strictly reemphasised the basic principles and obligations in the climate change agreements, especially the UNFCCC and the Paris Agreement. SDG target 13.2 reemphasises Article 4(2) (a) UNFCCC, which considers the integration of climate change measures into national policies, strategies, and planning. SDG target 13.3 reemphasises Article 6 of the UNFCCC, where Parties are encouraged to improve education and awareness.

The point to note is that the SDGs, especially SDGs 13, 7, and 15 are aimed at one thing, that is, reducing the emissions of GHG and combat the consequences of the impacts of climate change. In this sense, this thesis argues that key SDGs such as SDG 13, 7 and 15 that are similar with climate change obligations and the Nigeria NDC need to be mapped out for synergistic implementation.⁶³⁷ Section 3.6.3 discusses the importance of the synergy between climate change obligations, key SDGs, and the Nigeria NDC.

3.7.3 THE BENEFITS OF LINKING CLIMATE CHANGE OBLIGATIONS, SDGs, AND THE NIGERIA NDC

There are key benefits of aligning climate change obligations, key SDGs, and NDCs. First, the alignment of climate change obligations, key SDGs, and the NDCs unveil vital areas of needs amongst the three instruments, that is, the climate change agreements, SDGs, and the Nigeria

⁶³⁶All the 17 SDGs have specific targets spelled out for the purpose of achieving its individual goals; see UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018].

⁶³⁷ Table 1.1 shows the key areas where climate change obligations, key SDG, and Nigeria NDC are linked.

NDC. For instance, the overwhelming 17 SDGs and 169 targets and the numerous climate change obligations make it difficult for countries to identify key priorities. However, the alignment of the key target areas of the SDGs and NDC and climate change obligations makes it easy to understand the country's priority areas. For example, this alignment has made it possible to identify Nigeria's priority areas of need, such as the energy and forest sectors.

Second, mapping these linkages will not just unveil the key priorities of the Nigerian government's needs but will enable key climate change-related MDAs to match budgets and channel funds to key priority areas such as the energy and forest sectors. This is because climate change is an urgent and existential threat to humanity.⁶³⁸ As rightly pointed out by the Department of Foreign Institute Development (DFID) report in Nigeria, a 1m rise of the sea levels could displace 14 million people in the coastal area of Nigeria.⁶³⁹ 14 million people are more than the entire population of New Zealand and Norway put together.⁶⁴⁰ This clearly shows that climate change is one of the most dangerous challenges facing humanity aside from Covid 19 at the moment.⁶⁴¹ The point is that people must be alive to enjoy every other plan of the government, so prioritising and matching budgets among MDAs to fight climate change, especially Nigeria which is one of the front-line countries of the impacts of climate change is a necessity.

⁶³⁸J Stollberg and E Jonas, 'Existential threat as a challenge for individual and collective engagement: Climate change and the motivation to act.' (2021) 42 *Current opinion in psychology*,145-150 at 145; United Nations, Climate change: An 'existential threat' to humanity, UN chief warns global summit (UN News Global perspective Human stories 2018) available at [Climate change: An 'existential threat' to humanity, UN chief warns global summit | UN News](#)> Accessed 14th January 2022; United News ; R Dittmeyer and G Ozin, 'Crowd oil not crude oil (2019) 10 (1) *Nature communications*, 1-8 at 1.

⁶³⁹ P Akpodiogaga and O Ovuyovwiroye, 'General overview of Climate change impacts in Nigeria' (2010) 29(1) *Journal of Human Ecology* 47-55 at 50; V.A Solomon and O.D Akpan 'Impacts of Climate Variability on Wetland and Fishing Households in the Niger Delta Region, Nigeria' (2015) 7(3) *Asian Journal of Agricultural Extension, Economics & Sociology* 1-9.

⁶⁴⁰ New Zealand and Norway's population is about five million each see Worldometer, 'Countries in the world by population (2022)' available at < [Population by Country \(2022\) - Worldometer \(worldometers.info\)](#) > accessed 14 January 2020.

⁶⁴¹ R Fuentes and B Manzano, 'COVID-19 and climate change: a tale of two global problems (2020) 12 (20) *Sustainability*, 8560.

Third, prioritising climate change obligations, key SDGs, and the Nigeria NDC will do away with duplications, separate budgeting allocations for climate change targets, and SDGs. Few countries such as Japan, Vietnam, and Mexico are currently pushing for a synergistic approach to achieve SDGs and climate change obligations.⁶⁴² The examples of these countries are discussed in chapter 7.⁶⁴³

Fourth, the alignment will also enable investors to identify key priorities of Nigeria's climate change obligations, SDGs, and the NDCs and invest in core sustainable development needs.⁶⁴⁴ This is in line with the Paris Agreement which clearly states that there is a need to mobilise a large sum of private investment to achieve the targets of the Paris Agreement.⁶⁴⁵

Fifth, linking key SDGs, NDCs, and climate change obligations will encourage collaboration amongst key climate change-related ministries and departments. The relationships of climate change obligations, SDGs, and the NDCs will enable key climate change-related ministries and departments to collaborate by pooling resources together and implementing key connected targets identified in the NDC, SDGs, and climate change obligations. For instance, the linking of key SDGs, NDCs, and climate change obligations presents an opportunity to collaborate between the Department of Climate Change, the Ministry of Agriculture, the Forest Department, and the Office of Senior Special Assistant to The President on SDGs⁶⁴⁶ to attain

⁶⁴² Countries such as Japan, Vietnam, Mexico are pushing for synergistic approach to achieve SDGs and national goals. The examples of these countries are discussed in section 7.3.5 collaboration between MDAs and the SDG office.

⁶⁴³ See section 7.3.5. collaboration between MDAs and the SDG office.

⁶⁴⁴ World Resources Institute, 3 New Ways to Explore Links Between Climate and Sustainable Development available at < <https://www.wri.org/blog/2017/12/3-new-ways-explore-links-between-climate-and-sustainable-development> > Accessed 21st March 2020.

⁶⁴⁵ See Article 6 (8) (b) states that parties are to 'Enhance public and private sector participation in the implementation of nationally determined contributions'; Achim Steiner, The Financial System We Need: Aligning the Financial System with Sustainable Development. Nairobi (United Nations Environment Programme 2015) at 7.

⁶⁴⁶ The Office of Senior Special Assistant to The President on SDGs was set up by the Nigerian president to implement the SDGs. See Sustainable Development Goals, Office of senior special assistant to the president, see the mandate available at < <http://sdgs.gov.ng/about-sdgs/our-mandate/> > Accessed 11th April 2020.

reforestation and climate-smart agriculture. This will enable both sets of objectives to be met more quickly, efficiently, and effectively.⁶⁴⁷

Sixth, the SDGs that have already been highlighted are the 2030 agenda for sustainable development.⁶⁴⁸ One of the 2030 agendas agreed by the United Nations member states is to take urgent action and fight the adverse impacts of climate change.⁶⁴⁹ These SDGs are to realise by 2030. This is important because the Nigeria NDC targets and the climate change commitments under the Paris Agreement are also to achieve by 2030.⁶⁵⁰ This presents an opportunity for the Nigerian government to work and achieve common areas among the three instruments, SDGs, Nigeria NDC, and climate change instruments by 2030. This means successful implementation of the climate change obligations could lead to a successful implementation of key related SDGs as well as associated NDC at the national level.

Seventh, the rapid transition from fossil fuel to renewable energy can create more jobs which may lead to economic growth.⁶⁵¹ As the Nigeria NDC rightly pointed out low carbon pathway may generate \$304b (£233.8b)⁶⁵² for the Nigerian government which is more than the total oil revenue the Nigerian government has received from 2015 to 2019. The total oil revenue the

⁶⁴⁷ F F Nerini and B Milligan, B., 2019. 'Connecting climate action with other Sustainable Development Goals. (2019) 2 (8) Nature Sustainability 674-680 at 678.

⁶⁴⁸ UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2020].

⁶⁴⁹ SDG 13 UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018].

⁶⁵⁰ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.2-3 and 14.

⁶⁵¹IRENA, 'Renewable Energy and Jobs Annual Review 2021' (2021) available at [wcms_823807.pdf \(ilo.org\)](https://www.irena.org/~/media/Files/Publications/2021/IRENA_REJ_AR_2021.pdf) > Accessed 27th January 2022.

⁶⁵²Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 3.

Nigerian government has received from 2015 to 2019 is \$206.06 billion.⁶⁵³ Table 1.1 above shows the key areas linked to climate change obligations, key SDG, and Nigeria NDC.

Table 3.1 climate change obligation, key SDG, and Nigeria NDC synergies.

CLIMATE CHANGE INSTRUMENTS	KEY SDGs	NIGERIA NDC
<p>Integration of climate change measures into national policies</p> <p>Article 4 (2) (a) of the UNFCCC</p> <p>Article 6 (1) Paris Agreement</p>	<p>SDG 13.2</p> <p>SDG 1:1b</p>	-
<p>Reduce emissions of GHG from deforestation and forest degradation</p> <p>Article 4 (1) (c) UNFCCC</p> <p>Article 2 (1) (a) ii and Article 3 (3) Kyoto Protocol</p> <p>Article 5 (2) Paris Agreement</p>	<p>SDG 15:1, SDG 15:2, SDG 15:3</p>	<p>a. Climate-smart agriculture and</p> <p>b. reforestation.</p>
<p>Promote renewable energy</p> <p>Article 4(1) (c) UNFCCC</p> <p>Article 2 (1) (i) Kyoto Protocol</p> <p>Article 10 (1) (2) Paris Agreement</p>	<p>SDG 7:1, SDG 7:2, SDG 7:3</p>	<p>a. Work towards ending gas flaring by 2030</p> <p>d. Work towards Off-grid solar PV of 13GW (13,000MW)</p> <p>e. Efficient gas generators</p> <p>f. 2% per year energy efficiency (30% by 2030)</p> <p>g. Improve electricity grid</p>
<p>Climate change education and awareness</p> <p>Article 6 of the UNFCCC</p> <p>Article 10 (e) Kyoto Protocol</p> <p>Article 12 Paris Agreement</p>	<p>SDG 13:3</p>	-

⁶⁵³A Adegboyega, ‘Nigeria earned \$206bn from petroleum export under Buhari administration – OPEC’ (Premium Times 2021) available at [Nigeria earned \\$206bn from petroleum export under Buhari administration - OPEC \(premiumtimesng.com\)](https://www.premiumtimesng.com/news/local-news/2021/01/2021-01-20-nigeria-earned-206bn-from-petroleum-export-under-buhari-administration-opec/) > accessed 27th January 2022.

<p>Duty of reporting</p> <p>Articles 4 and 12 UNFCCC</p> <p>Article 13 (7) Paris Agreement</p>		-
<p>International support for developing countries</p> <p>Article 4 (3) (4) (5) UNFCCC (financial and technology transfer)</p> <p>Article 10 Paris Agreement (Financial transfer)</p> <p>Article 11 (1) 3 Paris Agreement (Capacity building)</p>	Goal 13: A	-

3.8 THE STATUS OF THE CLIMATE CHANGE INSTRUMENTS AND THE SDGs IN NIGERIA

According to international law, ‘every treaty in force is binding upon the Parties to it and must be performed by them in good faith’⁶⁵⁴ This is based on the concept *pacta sunt servanda*.⁶⁵⁵

Nigeria has signed and ratified most of the climate change agreements in accordance with the Constitution of the Federal Republic of Nigeria (CFRN) 1999 as Amended.⁶⁵⁶ Under section 12 of the CFRN, no treaty shall have the force of law in the country except ratified by the National Assembly.⁶⁵⁷

This is no different from the provisions of the climate change agreements such as Article 22 of the UNFCCC, which states that ‘the convention is subject to ratification, acceptance, approval or accession by states and by regional economic integration organisations.’⁶⁵⁸ Corresponding provisions are recorded in Articles 24 and 25 of the Kyoto Protocol and Article

⁶⁵⁴ Article 25 United Nations, Vienna Convention on the Law of Treaties, 23 May 1969, United Nations, Treaty Series, vol. 1155, p. 331, available at: <https://www.refworld.org/docid/3ae6b3a10.html> [accessed 23 July 2019].

⁶⁵⁵ Ibid.

⁶⁵⁶ section 12 of the Constitution of Federal Republic of Nigeria 1999 as Amended.

⁶⁵⁷ Section 12 (2) *ibid*.

⁶⁵⁸ Article 22 UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

20 of the Paris Agreement. The Nigerian government, through the President, signed the UNFCCC on the 13th Jun 1992 and ratified 29 Aug 1994.⁶⁵⁹ Kyoto Protocol on the 10th Dec 2004.⁶⁶⁰ Paris Agreement was signed 22nd September 2016 and ratified 16 May 2017.⁶⁶¹

The Nigerian government also adopted SDGs. However, one important point to note is that SDG 13, 7, and 15 do not operate in isolation. As earlier pointed out, SDG 13, 7, and 15 are linked and reaffirmed the climate change obligations. The significance of all these is that all the general obligations arising from the climate change instruments (the UNFCCC, Kyoto Protocol, the Paris Agreement), that is, integration of climate change policies, renewable energy development, reduce emissions in the forest sector, climate change education, reporting duties are binding on Nigeria. This is by signing and ratifying the climate change instruments in accordance with the CFRN and the principle of *pacta sunt servanda*.

3.9 CONCLUSION

This chapter presented the international legal framework of climate change, such as the UNFCCC, the Kyoto Protocol, the Paris Agreement, and the SDGs. This chapter shows climate change principles and obligations and how they will be assessed in the context of Nigeria's laws and policies in subsequent chapters. There are certain environmental principles that are incorporated into the climate change instruments. These principles include but are not limited to the PP, PPP, CDBR, SD, and Public Participation. Member states are expected to adopt these

⁶⁵⁹ United Nations Frame Work on ccc 'status of ratification of the convention > <https://unfccc.int/process/the-convention/what-is-the-convention/status-of-ratification-of-the-convention> > accessed October 2 2018.

⁶⁶⁰ Ratification is the most important thing. See The Kyoto Protocol - Status of Ratification > <https://unfccc.int/process/the-kyoto-protocol/status-of-ratification> > accessed October 2 2018; S Daniel, 'Buhari signs Paris Agreement, says Nigeria will reverse effects of climate change' (Vanguard Newspaper September 22, 2016) < <https://www.vanguardngr.com/2016/09/buhari-signs-paris-agreement-says-nigeria-reverse-effects-climate-change/> > accessed 2 October 218.

⁶⁶¹ United Nation Treaty Collection, available < https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=en > accessed October 2, 2018.

principles at the national level for the purpose of fulfilling the climate change objectives. This chapter clearly highlighted that the principles of climate change discussed in this chapter would be further assessed in the context of Nigeria's primary climate change-related legislation in chapter 4 of this thesis. This is because the environmental principle will support the Nigerian government in fulfilling its climate change obligations.

This chapter also emphasised the key obligations of the climate change regime, such as reducing emissions in the forest sector; developing renewable energy; carrying out climate change education and reporting climate change activities at the national level. These obligations directly flow from the climate change instruments, and both developing and developed countries are expected to implement them at the local levels. This means the Nigerian government should formulate policies and laws domestically to implement these obligations and combat the consequences of climate change and reduce GHG emissions.

Aside from the climate change obligations, the Nigerian government has voluntarily submitted its NDC commitments to the COP. The Nigeria NDC commitments are precise and specific targets concentrated on reducing GHG emissions, especially in both the energy and forest sectors. Aside from the NDC, this chapter also assessed the SDGs, especially SDG 7 and 15. SDG 7 talks about renewable energy development, while SDG 15 is about improving forests, which may reduce GHG emissions in the forest sector.

More importantly, SDG7 and 15 are aligned with the climate change obligations and the Nigeria NDC commitments. This is important because the synergies between the Nigeria NDC, climate change obligations and the key SDGs create an opportunity for the Nigerian government to incorporate and implement these synergies by making new laws or using the existing climate change-related policies. This chapter clearly states that chapter 5 of this research would assess the energy policies, whether they recognise the renewable energy

development obligation which is linked with SDG7 and the Nigeria NDC energy-related targets. Chapter 6 will assess the forest policies, whether they recognise the forest obligation, which is linked with SDG 15, and the Nigeria NDC forest-related targets. While chapter 7 assesses the duty of climate change education and awareness and climate change reporting in the context of the current climate change-related institutions in Nigeria.

CHAPTER 4

LEGAL FRAMEWORK OF CLIMATE CHANGE RELATED LAWS AND POLICIES OF NIGERIA: THE ROLE OF PARLIAMENT AND THE EXECUTIVE ARMS TO INTEGRATE CLIMATE CHANGE PRINCIPLES

4.1 INTRODUCTION

Nigeria is a member of the United Nations and a signatory to the UNFCCC, the Kyoto Protocol, the Paris Agreement, including the non-binding SDGs.⁶⁶² Nigeria has signed the above agreements and has ratified the climate change agreements in accordance with the Constitution of the Federal Republic of Nigeria 1999 as Amended.⁶⁶³ The implication is that Nigeria as a country has several obligations.⁶⁶⁴ One of the key obligations imposed on member states by the UNFCCC is to integrate climate change measures into national policies. Article 4 (2) (a) UNFCCC states that ‘[E]ach of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change ...’.⁶⁶⁵ Article 4 (2) of the Paris Agreement clearly states that to achieve the Nationally Determined Contributions (NDCs), Parties are to pursue domestic measures to achieve the objectives of the NDCs.⁶⁶⁶ Also, SDG target 13.2, which instructs member states to integrate climate change measures into national policy and planning.

These provisions imply that it is incumbent on the Nigerian government to make laws, policies, and regulations to incorporate climate change obligations and principles or use existing climate

⁶⁶² See chapter three.

⁶⁶³ section 12 of the Constitution of Federal Republic of Nigeria 1999 as Amended.

⁶⁶⁴ See chapter three.

⁶⁶⁵ Article 4(2) (a) (b) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

⁶⁶⁶ Article 4 (9) UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 [accessed 19 November 2018]; Article 4(2) (a) of the UNFCCC.

change-related laws and policies to combat climate change. Investigation into the Nigerian government's Parliament and Executive arms activities reveal that both arms have formulated several existing climate-change-related laws, policies, and regulations.

The first set of laws made by the Nigerian government that relate to climate change are the laws presently regulating Nigeria's oil and gas industries.⁶⁶⁷ Oil production comes with different adverse impacts on the environment; these include but are not limited to oil spills and gas flaring that emits CO₂.⁶⁶⁸ Due to the air pollution associated with gas flaring, the Nigerian government enacted laws to regulate gas flaring.⁶⁶⁹ The laws relating to gas flaring were enacted in 1969 and 1979, and they are relevant to the climate change regime.⁶⁷⁰

In 1998, the Nigerian government established an Agency known as Federal Environmental Protection Agency which later metamorphosed into the National Environmental Standard and Regulations Enforcement Agency (NESREA). This NESREA introduced a couple of regulations that deal with waste and industrial processing.⁶⁷¹ According to the Nigeria Biennial Report, Waste and Industrial processes emit 3% of the GHG in Nigeria.⁶⁷² In this manner, regulations relating to waste and industrial processing may be useful.

⁶⁶⁷ Associated Gas Re-injection Act of 1979; Petroleum (Drilling and Production) Regulation of 1969; Flare Gas (Prevention of Waste and Pollution) Regulation 2018.

⁶⁶⁸ B Buzco-Guven and R Harriss, 'Gas flaring and venting: extent, impacts, and remedies' 2010 Energy Forum 1-72; 10.

⁶⁶⁹ Re-injection Act of 1979⁶⁶⁹ Petroleum (Drilling and Production) Regulation of 1969,⁶⁶⁹ Nigerian Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurances) Act 1993, Flare Gas (Prevention of Waste and Pollution) Regulation 2018.

⁶⁷⁰ The Nigeria NDC specifically state that it will stop gas flaring by 2030 in order to cut down the emission of GHG see Federal Ministry of Environment, Abuja, 'Nigeria's Intended Nationally Determined Contribution, Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate Change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate Change coming up in December 2015.

⁶⁷¹ National Environmental Protection (Effluent Limitation) Regulations 1999; The National Environmental Standard and Regulations Enforcement Agency (Establishment) Act 2007; National Environmental (Base Metals, Iron and Steel Manufacturing/Recycling Industries Sector) Regulations, 2011.

⁶⁷² Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC)11.

Between 2008 to 2013, the Nigerian government made laws target specifically on climate change. For the first time, the Nigerian government made laws designated to ‘climate change’ particularly with the intention to combat the impacts of climate change at the national level. Among these laws is the ‘Climate Change Bill of Nigeria 2008’ now ‘Climate Change Act of Nigeria 2021’, the National Policy on Climate Change Policy (NPCC) 2013, and the National Adaptation Strategy and Plan of Action on Climate Change for Nigeria 2012. The Climate Change Bill is still pending in parliament, while the (NPCC) was adopted in 2013.

All these laws, policies, and regulations mentioned above were in existence before the Paris Agreement 2015, the Nigeria NDC commitments 2015, as well as the non-binding SDGs.⁶⁷³ The implication is that these laws may not specifically incorporate climate change commitments made by the Nigerian government under the Paris Agreement, especially the Nigeria NDC. However, some of these laws recognise key principles of climate change regime, such as the Polluter Pays Principle (PPP), Precautionary Principle (PP), Sustainable Development (SD), and Public Participation. The analyses below show this recognition. Therefore, this chapter aims to identify the key existing climate change-related laws, regulations, and policies relevant to climate change. The second aim is to assess whether some of these laws incorporate key climate change principles mentioned above and how they could help the Nigerian government achieve climate change obligations at the national level.

This chapter is structured into two major parts. The first part critically analyses the role of the Parliament and the existing key climate change related Acts and regulations that deal with climate change. This segment assesses the Climate Change Bill of Nigeria 2008, key primary

⁶⁷³ This research is aware that the legal regime of climate change started in 1992, the UNFCCC and the binding Kyoto Protocol 1994. However, the Paris Agreement and the NDCs commitments made by members of UNFCCC begin active involvement and commitment of developing countries, including Nigeria to reduce GHG emissions at the national level. In this sense, the date the Paris Agreement enters into force is important to assess the commitments either in the form of laws, policies or programmes the Nigerian government has made domestically to reduce emissions of GHG.

laws enacted to reduce gas flaring in Nigeria, and regulations meant to reduce GHG emissions in the waste and industrial processing in Nigeria. The second part of this chapter highlights the role of the Executive arm of the Nigerian government and key general climate change policies initiated to combat climate change. This segment assessed these policies against key principles of climate change and how they could help the Nigerian government in the fight against climate change.

4.2 THE ROLE OF NIGERIAN PARLIAMENT AND CLIMATE CHANGE INTEGRATION

The arrangement of domestic legislation in Nigeria is quite different from the international procedures as we have seen in chapter two regarding the formation of UNFCCC, Kyoto Protocol, Paris Agreement, and the SDGs. In Nigeria, substantive laws are made by the Parliament. The Nigerian Parliament is bicameral—comprised of two houses known as the Senate and the House of Representative.⁶⁷⁴ Any proposed law is called a Bill which must pass through both houses and reviewed by relevant committees and discussed. To complete the legislative process, a simple majority of both houses vote independently from one another and same must be transmitted to the president for assent. Once the president assents to the Bill it becomes an Act, and it is binding.⁶⁷⁵ However occasionally, the Nigerian Parliament delegates its powers to government Ministries, Departments, and Agencies (MDAs) to make regulations.

⁶⁷⁴ Section 4 (1) of the Constitutional of Federal Republic of Nigeria 1999 as Amended.

⁶⁷⁵ 'Restoring Nigeria's Law to Nigeria's People - One by One' (Centre for Laws of the Federation of Nigeria) <<http://lawnigeria.com/FederationlawsN.html> > assessed 3 June 2019.

This is because they might not foresee all the essentials during legislation.⁶⁷⁶ These laws made by MDAs are referred to as regulation.⁶⁷⁷

The point is that the Nigerian Parliament plays a key role in integrating climate change obligations and principles. For instance, the primary duty of a parliament is to legislate and formulate binding laws for the country.⁶⁷⁸ The Parliament also establishes agencies and how they should be regulated.⁶⁷⁹ The Nigerian Parliament is also constitutionally empowered to pass motions, resolutions⁶⁸⁰ to government agencies on specific issues including, climate change matters. As a representative of the macrocosm of different constituents across the country, Parliament represents different interest groups, and it is to ensure that the citizens are engaged and participated in policy formulation, including policies relating to climate change. More importantly, Parliament oversight functions over the executive arm by controlling public funds,⁶⁸¹ such as reviewing budgetary allocations. The Parliament can reduce or increase the amount of money budgeted in a specific matter whether or not it is sufficient for the purpose it was budgeted for.⁶⁸² This is important because this power could be extended to climate change budgeting issues. The Inter Parliamentary Union (IPU) alluded to this fact when it ‘called parliaments to use their legislative, oversight, budgetary and representation powers to implement the climate change commitments contained in the Paris Agreement.’⁶⁸³

⁶⁷⁶ N A Izoukumor, ‘A Critical Assessment of the Pollution Prevention Laws and Regulations of Nigeria: Why They Failed to Protect the Environment of Nigeria’ (2019) 87 Journal of Law, Policy and Globalization 43-53, 44.

⁶⁷⁷ See section 9 of the Petroleum Act CAP. P10 L.F.N. 2004 ; Section 34 of the National Environmental Standards and Regulations, Enforcement Agency (Establishment) Act, 2007.

⁶⁷⁸ Section 4(2) of the Constitutional of Federal Republic of Nigeria 1999 as Amended.

⁶⁷⁹ Item 60(a) of the Second Schedule to the 1999 Constitution as Amended.

⁶⁸⁰ See sections 64-71 Constitutional of Federal Republic of Nigeria 1999 as Amended.

⁶⁸¹ See section 80-90 Constitutional of Federal Republic of Nigeria 1999 as Amended.

⁶⁸² Section 81 (4) a of the Constitutional of Federal Republic of Nigeria 1999 as Amended.

⁶⁸³ Inter-Parliamentary Union’ <<https://www.ipu.org/news/news-in-brief/2018-12/mps-call-bolder-action-fight-climate-change> > accessed 22nd December 2018.

Over the years, the Nigerian Parliament has enacted laws that are related to climate change.

For clarity, these laws are divided into three, namely:

- The Climate Change Act of Nigeria 2021.⁶⁸⁴
- Key climate change-related legislation.⁶⁸⁵
- Regulations indirectly regulating climate change.⁶⁸⁶

These three categories of laws are analysed and assessed against the principles of climate change bellow. Note that a single piece of legislation may not reflect all the principles of climate change highlighted in chapter 3. For instance, the Climate Change Bill of Nigeria reflects SD and public participation principles while it is silent on other principles such as PP and PPP.

4.2.1 THE CLIMATE CHANGE ACT OF NIGERIA

The Nigerian president has signed the Climate Change Act of Nigeria into law in November 2021. The Climate Change Act is the major instrument that will govern Nigeria's climate change issues, such as cutting down the emissions of GHG and ameliorating the impacts of climate change to achieve both national and international climate change obligations. In other words, this Act is the future of Nigeria's climate change regime.

The Climate Change Act contains 25 sections and 7 parts. Part I provides the principles that will guide the implementation of the Act.⁶⁸⁷ Part II sets out the composition, the functions and

⁶⁸⁴ Discussed in section 4.2.1.

⁶⁸⁵ Discussed in section 4.2.2.

⁶⁸⁶ Discussed in section 4.2.3.

⁶⁸⁷ See section 1:1 a- h Climate Change Bill, 2017 < <https://nass.gov.ng/document/bill/973> > Accessed 02 February 2019.

most importantly, establishes the legal status of a commission to be known as ‘The National Climate Change Council (NCCC).’⁶⁸⁸ Part II also creates the Climate Change Agency (Agency)⁶⁸⁹ and Technical Advisory Committee.⁶⁹⁰ Part III launches a framework strategy and programme for climate change.⁶⁹¹ Part IV highlights the duties of compliance. Part V outlines funding for the NCCC to meet the objective of the Act. Part VI mandated the NCCC to strategise public engagement and participation, while Part VII of the Act gives the NCCC powers to make regulations for the orderly conduct of the business of the NCCC.⁶⁹² The next subtopic assessed the principles of climate change in the context of the Nigeria Climate Change Act.

4.2.1.1 ASSESSMENT OF CLIMATE CHANGE PRINCIPLES IN THE CONTEXT OF CLIMATE CHANGE ACT

The Climate Change Act appears silent on the PP and the PPP. However, the Climate Change Act recognises public participation and the principle of SD. The Climate Change Act specifically mentioned SD and emphasised the need to align with the Paris Agreement, the Nigeria NDC, and the SDGs. Section 1 (1) of the Act clearly states that the ‘Act shall be applied in all sectors of the economy for the sustainable development of Nigeria.’ According to the Climate Change Act, the Nigeria NDC, Sustainable Development, the SDGs, the UNFCCC, including the Paris Agreement will be the guiding principles of the Act.⁶⁹³ Section 1 (1) of the Act clearly states that climate change responses must be consistent with the NDC and that of the climate change policy of Nigeria.⁶⁹⁴ Section 1(1) (a) is considered very important because

⁶⁸⁸ Section 2 (1) *ibid.*

⁶⁸⁹ Section 4(1) *ibid.*

⁶⁹⁰ Section 5(1) *ibid.*

⁶⁹¹ See generally sections 8, 9, 10, 11 and 12 *ibid.*

⁶⁹² Climate Change Bill, 2017 < <https://nass.gov.ng/document/bill/973>> Accessed 02 February 2019.

⁶⁹³ Section 1(1) a-h *ibid.*

⁶⁹⁴ The climate change Policy is a document published by the depart of climate change. This policy is discussed in section 4.3.1 the National Policy on Climate Change (NPCC).

the Act recognises and mentions the Nigeria NDC, which Nigeria voluntarily submitted to the UNFCCC under the second part of the Paris Agreement. In fact, section 1 (1) b specifically states that the Act should be implemented so that the Nigerian climate change obligations contained in the SDGs, UNFCCC and that of the Paris Agreement could be achieved in the nearest future.

Again, the Nigeria Climate Change Act states that the Act will foster clean energy⁶⁹⁵ and inclusive growth in Nigeria.⁶⁹⁶ This means the Act takes cognizance of Article 3 (4) of the UNFCCC, which is to the effect that Parties are obligated to promote sustainable development. Sustainable Development in the context of climate change regime means ‘a shift away from energy policy based on finite fossil fuel resources to renewable energy.’⁶⁹⁷ In this sense, the Climate Change Act recognises the principle of SD.

Apart from the principle of SD, the Climate Change Act also recognises public participation.⁶⁹⁸ The Climate Change Act contemplates the involvement of academia, stakeholders, NGOs, civil societies, and the private sectors in ‘the development and implementation of the Action Plan’ for climate change.⁶⁹⁹ It encourages all tiers of the government, including national, state, and local, to integrate climate change action plans into various sectors.⁷⁰⁰ Most importantly, all ministries, government departments, agencies of government shall establish a ‘climate change Desk headed by an officer’ for the purpose of ‘adequate planning and budgeting for all climate change programmes, projects, and activities.’⁷⁰¹

⁶⁹⁵ Section 1(1) (d) Ibid.

⁶⁹⁶ Section 1(1) d ibid.

⁶⁹⁷ L Drake, International law, and the renewable energy sector (The Oxford Handbook of International Climate Change Law 2016) 376.

⁶⁹⁸ Section 9(2) ibid.

⁶⁹⁹ Section 9(2) ibid.

⁷⁰⁰ Section 16 (4) ibid.

⁷⁰¹ Section 12 (1) a and b ibid.

Furthermore, the implementation arrangement also encourages public participation. Section 20 provides that the NCCC is to prepare and publish a public engagement strategy every year that will inform the general public about the government climate action plans.⁷⁰² This is the obligation enshrined in Article 6 of the UNFCCC, Article 10 (e) of the Kyoto Protocol, Article 12 of the Paris Agreement, and the SDGs,⁷⁰³ where member states are encouraged to enhance climate change education and participation of their citizen at the local level.

However, there are a few lapses identified in the Climate Change Act. First, the Climate Change Act provides public participation ranging from academia, stakeholders, NGOs, civil societies, and the private sectors in ‘the development and implementation of the Action Plan’ for climate change.⁷⁰⁴ However, it does not explicitly provide how the public will be part of policy formulation and implementation process. Although section 20 of the Act mandates the NCCC to prepare and publish a public engagement strategy every year⁷⁰⁵ and section 23 (2) (3) allows public review in the Federal High Court of Nigeria,⁷⁰⁶ the process of selecting the NGOs, how they will be contacted, and how neutral the selection process may be questionable in the future. According to section 2(4), NGOs are to be part of the NCCC, appointed by the President upon the recommendation of the minister of environment.⁷⁰⁷ However, it did not state the exact NGOs representatives needed to be part of the NCCC. This will give discretion to the president to appoint few or even one as he wishes. This is not the case in terms of the exact number of ministers that will be part of the NCCC.⁷⁰⁸

⁷⁰² Section 20 (1) a *ibid.*

⁷⁰³ Goal 13 Target 13.3.

⁷⁰⁴ Section 9(2) *ibid.*

⁷⁰⁵ Section 20 (1) a *ibid.*

⁷⁰⁶ Section 23 (1) *ibid.*

⁷⁰⁷ Section 2(4) t *ibid.*

⁷⁰⁸ Section 2 (4) states that The Council shall consist of the Chairman, Vice-Chairman and the following 19 other persons, namely: (a) Minister of Petroleum Resources; (b) Minister of Finance; (c) Minister of National Planning & Budget; (d) Minister of Power, Works and Housing; (e) Minister of Transport; (f) Minister of Agriculture and Rural Development (g) Minister of Industry, Trade and Investment; (h) Minister of Science and Technology; (i) Minister of Water Resources; (j) Minister of Education (k) Minister of Information (l) Minister of Defense (m) Minister of Women Affairs (n) Minister of Health (o) Director General of National Emergency Management

Second, the Act also mentions a market-based-mechanism⁷⁰⁹ but does not define or explain the market-based -mechanism to be adopted in the context of Nigeria. Considering the fact that there are different market-based instruments such as carbon pricing—C02 tax,⁷¹⁰ emission trading schemes, subsidies,⁷¹¹ and many others regulating GHG emission at the national levels, there is a need to specify the market-based instrument to be adopted in Nigeria. However, section 18 (1) of the Act instructs the NCCC to make regulations that will govern market-based mechanisms and promote incentives for reducing GHG emissions that will enable private participation in the emission reduction regime.⁷¹² This means that the NCCC might make additional regulations regarding market-based-mechanism that will help the Nigerian government reduce GHG emissions. The NCCC should be cautious about adopting a market-based instruments that will be workable for Nigeria. Section 4.2.2.5 suggests market-based instruments that will help to reduce the emission of GHG in all the sectors that emit GHG in Nigeria.

4.2.1.2 KEY FINDINGS FROM THE CLIMATE CHANGE BILL OF NIGERIA

The Climate Change Act of Nigeria incorporates public participation as well as SD. However, the Climate Change Act of Nigeria does not incorporate the specific targets of the Nigeria NDC into the legal framework.⁷¹³ The Climate Change Act of Nigeria merely states that Nigeria's

Agency (NEMA); (p) National Security Adviser (q) Chairman of the Governors' Forum; (r) Chairman of the Association of Local Governments of Nigeria; (s) one representatives of the leading organizations representing the private sector, appointed by the President on recommendation of the Minister of Industry; and (t) a representative of the Nigerian non-governmental organizations, appointed by the President on recommendation of the Minister.

⁷⁰⁹ Section 18(1) g *ibid.* Market based mechanism are policy instruments that use incentives to reduce GHG emissions.

⁷¹⁰ Carbon tax is explained in section 4.2.2.5 Assessment of the PPPP principle.

⁷¹¹ Subsidy is explained in section 5.9 fossil fuel subsidy and its impact on re development.

⁷¹² Section 18 (1) g of Climate Change Bill of Nigeria.

⁷¹³ Nigeria pledged to reduce its emission level by 45% in 2030. To achieve 45% emission reduction, Nigeria will work towards ending gas flaring by 2030; Work towards Off-grid solar PV of 13GW (13,000MW); Efficient gas

climate change responses must be consistent with the NDC and that of the climate change policy of Nigeria. This means Nigeria would not have a binding target emanating from parliament. But this is not the case with other jurisdictions such as the United Kingdom (UK), where the Climate Change Act 2008 enshrined a legally binding target of at least an 80% reduction of emissions of GHG by 2050 against the 1990 baseline.⁷¹⁴ In fact, the preamble of the Climate Change Act of the UK clearly states that this Act is ‘to set a target for the year 2050 for the reduction of targeted greenhouse gas emissions.’ The Climate Change Act of the UK specifically sets out a carbon budgeting system to help the government focus and stay on track to achieve an 80% reduction of GHG emissions by 2050. The legally binding carbon budget system runs from 2008–2012, 2013–2017 and 2018–2022⁷¹⁵ 2023–2027, approved by parliament in 2011 and reviewed in 2014.⁷¹⁶ Similarly, the Norwegian Climate Change Act 2018 clearly set out 2050 to reduce 80-95% emission reduction.⁷¹⁷ The point is that setting specific dates and targets in domestic legislation to achieve climate change obligations highlighted in both the UK and Norway is important because it could lead to a realistic reduction of emissions of GHG. Therefore, the Nigerian Parliament may consider incorporating the specific targets of the Nigerian NDC into the Climate change Act of Nigeria.

4.2.2 KEY CLIMATE CHANGE RELATED LEGISLATION

Aside from the Climate Change Bill of Nigeria, there are key climate change-related Acts passed by the Nigerian Parliament. These laws include but are not limited to the Petroleum Act

generators; 2% per year energy efficiency (30% by 2030); Transport shift car to bus; Improve electricity grid; Climate-smart agriculture and reforestation.

⁷¹⁴ Article 1 (1) of the Act 2008.

⁷¹⁵ Ibid.

⁷¹⁶ Grantham Research Institute on climate change and the environment <<http://www.lse.ac.uk/GranthamInstitute/law/climate-change-act-2/>> Accessed 12th June 2019

⁷¹⁷ Section 4 of the Norway Climate Change Act 2018 available at < [Lov om klimamål \(klimaloven\) - Lovdata](#) > accessed 30th April 2021.

1969,⁷¹⁸ Petroleum (Drilling and Production) Regulation 1969,⁷¹⁹ the Associated Gas Re-injection Act of 1979,⁷²⁰ as well as the Flare Gas (Prevention of Waste and Pollution) Regulation 2018. These laws are targeted to phase out gas flaring in Nigeria, and they have existed long before the climate change regime.⁷²¹ Therefore, this segment briefly explains these laws and assesses them against the principles of climate change.

4.2.2.1 THE PETROLEUM ACT 1969,⁷²² PETROLEUM (DRILLING AND PRODUCTION) REGULATION 1969⁷²³

Section 9 of the Petroleum Act placed an obligation on the Minister of Petroleum to make regulation for the prevention of pollution of the atmosphere.⁷²⁴ What this means is that the Nigerian Parliament recognised unclean production of oil. The intention is to delegate its powers to the Minister of Petroleum to make subsidiary laws in order to prevent pollution, including gas flaring.⁷²⁵ The Petroleum (Drilling and Production) Regulation 1969 was born out of the Petroleum Act. Though, the major objectives of both the Petroleum Act and the Petroleum (Drilling and Production) Regulation were majorly enacted to vest ownership of oil found on- shore and off-shore to the Federal government of Nigeria, and most especially, how the oil exploration licences, oil prospecting licences and oil mining leases should be controlled and better managed by the Federal government.⁷²⁶

⁷¹⁸Now Petroleum Act - CAP. P10 L.F.N. 2004.

⁷¹⁹ Annex to the Petroleum Act of 1969 now the Petroleum Act - CAP. P10 L.F.N. 2004.

⁷²⁰ Now Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.

⁷²¹Except the Flare Gas (Prevention of Waste and Pollution) Regulation 2018.

⁷²²Now Petroleum Act - CAP. P10 L.F.N. 2004.

⁷²³ Annex to the Petroleum Act of 1969 now the Petroleum Act - CAP. P10 L.F.N. 2004.

⁷²⁴ Section 9 (1) iii of Petroleum Act.

⁷²⁵ See Petroleum Act (Drilling and Production) Regulations of 1969. this regulation was made by the minister of petroleum for oil companies to utilize associated gas, the purpose is to dissuade gas flaring.

⁷²⁶ See the preamble of the Petroleum Act 1969 now Petroleum Act - CAP. P10 L.F.N. 2004.

The relevance of these laws to the climate change regime is that the preamble of the Petroleum (Drilling and Production) Regulation 1969 encourages a reduction in the flaring of associated gas. This is important because one of the drivers of climate change in the energy sector of Nigeria is gas flaring,⁷²⁷ which is why one of the specific target areas of the Nigeria Nationally Determined Contribution (NDC) under the Paris Agreement is centered on ending gas flaring by 2030.⁷²⁸ Based on this target specified by the Nigerian government, laws relating to phasing out gas flaring, which is one of the GHG emission sources, are very important to this research.

4.2.2.2 THE ASSOCIATED GAS RE-INJECTION ACT 1979⁷²⁹

Section 3(1) of the Associated Gas Re-Injection Act (1979) prohibits the flaring of gases produced in association with oil without the permission of the Minister of Petroleum.⁷³⁰ The purpose of the Associated Gas Re-Injection Act 1979 is to re-inject the associated gas instead of burning it off.⁷³¹ The 1979 Act by virtue of section 3(1) provides that ‘no company engaged in the production of oil or gas shall after 1 January 1984 flare gas produced in association with oil without the permission in writing of the Minister.’⁷³² This means the Act sets out 1st of January 1984 as deadline for any company engaged in flaring of associated gas in Nigeria.

This Act was amended principally to extend the deadline. One of such extensions is 2004, where the Nigerian Parliament initiated a Bill for an Act to amend the 1979 Act, and this amendment shifted the original date to stop flaring gas to 31st December 2008.⁷³³ Presently,

⁷²⁷ See Chapter Two at 2.4 the drivers of climate change in Nigeria.

⁷²⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

⁷²⁹ Now Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.

⁷³⁰ Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.

⁷³¹ The emphasis at the 1979 is to reinject the gas but this no longer the position.

⁷³² Now Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.

⁷³³ Associated Gas Re-injection (Amendment) Bill, 2008 <<http://www.nassnig.org/document/bill/994> > accessed 3rd March 2019.

the Nigerian Parliament intends to amend this Act through a Bill called the Petroleum Industry Bill 2018.⁷³⁴ The original Bill was introduced in 2012,⁷³⁵ and it is pending in Parliament over the last 8 years. There is no clear date and year when the Bill will be passed into law. Noting the Bill's status, this research will examine the provisions of the Associated Gas Re-Injection Act 1979 in assessing the principles of climate change.

4.2.2.3 THE FLARE GAS (PREVENTION OF WASTE AND POLLUTION) REGULATION 2018

In 2018, the President of Nigeria, the Minister of Petroleum, issued a new regulation known as 'the Flare Gas (Prevention of Waste and Pollution) Regulation 2018' to stop the flaring of associated gas in Nigeria.⁷³⁶ The Flare Gas (Prevention of Waste and Pollution) Regulation 2018, hereinafter refers to Regulation 2018, is like that of the Associated Gas Re-injection Act 1979. Section 12 of Regulation 2018 is the same as section 3(1) of the 1979 Act, which stops routine flaring of associated gas by the Multinational Oil Corporations (MOCs) without the Petroleum minister's permit. However, there are some new issues introduced by this new Regulation 2018. For instance, it gives a right to the Nigerian government to take over marginal fields from the MOCs.⁷³⁷ What this means is that the Minister of Petroleum is allowed to reclaim petroleum leases, including marginal fields, if unauthorized flaring is noticed.⁷³⁸The

⁷³⁴ The Petroleum Industry Administration Bill 2018 (SB. 540) <http://www.petroleumindustrybill.com/wp-content/uploads/2018/04/PIAB.pdf> > accessed 24th September 2019.

⁷³⁵The Petroleum Industry Bill 2012 available <http://www.nigeria-law.org/Legislation/LFN/2012/The%20Petroleum%20Industry%20Bill%20-%202012.pdf> accessed 12 September 2019.

⁷³⁶ Section 12 (1) (2) and 3 the Flare Gas (Prevention of Waste and Pollution) Regulations 2018.

⁷³⁷Ibid Section 2.

⁷³⁸ Ibid section 2 (2).

regulation mandated the Department of Petroleum Resources (DPR)⁷³⁹ to request data of flare gas from a producer.⁷⁴⁰

The point is that both the Associated Gas Re-Injection Act of 1979 and Regulation 2018 deal with phasing out gas flaring in Nigeria. Note that the laws regulating gas flaring mentioned above recognised the following principles: the PP, the PPP, and one of the key targets of the Nigeria NDC—that is, phasing out gas flaring before 2030. Other principles of climate change such as, SD and public participation appear silent. Hence, sections 4.2.2.4 and 4.2.1.2.5 in this chapter assesses the PP and the PPP in the context of Nigeria’s laws regulating gas flaring.

4.2.2.4 ASSESSMENT OF THE PRECAUTIONARY PRINCIPLE

The Petroleum (Drilling and Production) Regulation 1969, the Associated Gas Reinjection Act 1979, and Regulation 2018 do not specifically mention the PP to regulate gas flaring or reduce emissions of GHG in the oil industry. However, there are few provisions in these laws that recognise the components of the PP.⁷⁴¹ The components of the PP, as discussed in chapter 3, include but are not limited to risk assessment, which involves identifying risk by ‘exploring a wide range of alternative to possibly harmful action.’⁷⁴²

Regulation 43 of the Petroleum (Drilling and Production) Regulation 1969 recognises risk assessment. It states that an operator licensed to operate in the oil sector not later than 5 years of operation should submit a feasible plan on dealing with gas flaring.⁷⁴³ A similar provision

⁷³⁹The DPR is an Agency in the Ministry of Petroleum Resources which primary mandate is to increase oil production in Nigeria. See the mandate of Ministry of Petroleum Resources <<http://petroleumresources.gov.ng/index.php/about-us/mission-vision-mandate>> accessed 6 April 2019.

⁷⁴⁰ Section 4 (1) and 2 Federal Republic of Nigeria Official Gazette NO. 88 Vol 105; The Flare Gas (Prevention of Waste and Pollution) Regulations 2018.

⁷⁴¹ See Regulation 43 of the Petroleum (Drilling and Production) Regulation 1969; Section 2 (a) of the Associated Gas Re-Injection Act 1979; Section 12 (1) and 2 of Regulation 2018.

⁷⁴² D Kriebel and M Stoto, ‘The Precautionary Principle in Environmental Science (2001) 109(9) 871-876 at 871.

⁷⁴³ Regulation 43 of Regulation.

is contained in section 2 (a) of the Associated Gas Re-Injection Act 1979, making it mandatory for all oil and gas industry operators to submit detailed plans and programmes to the Minister of Petroleum, showing how to re-inject all produced associated gas in Nigeria.⁷⁴⁴ Regulation 2018 has a similar provision. Section 12 (1) and 2 of Regulation 2018 is to the effect that ‘no permit holder, producer or operator shall engage in routing flaring or venting of natural gas from any facility or greenfield project’⁷⁴⁵ except permitted by the minister in line with the provision of the 1979 Act.

The importance of these provisions is that gas flaring is harmful to the environment and humans living in the environment. So, the operators are to assess the risk of gas flaring and explore ‘a wide range of alternative to possibly harmful action.’⁷⁴⁶ This is clearly captured in the Associated Gas Re-Injection Act 1979 Act. The purpose of the Associated Gas Re-Injection Act 1979 is ‘to compel every company producing oil and gas in Nigeria to submit preliminary programmes for gas re-injection and detailed plans for the implementation of gas re-injection.’⁷⁴⁷ Gas reinjection means re-inject the gas into an underground reservoir instead of flaring or burning it off.⁷⁴⁸

Again, the above laws also recognise the component of PP, which says, ‘taking preventive action in the face of uncertainty.’ This is the position of Article 3(3) of the UNFCCC, which encourages Parties to take ‘precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects.’⁷⁴⁹ The Associated Gas Re-Injection

⁷⁴⁴ See also See Citation of the [Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.](#)

⁷⁴⁵ Section 12 (1) (2) and 3 the Flare Gas (Prevention of Waste and Pollution) Regulations 2018.

⁷⁴⁶ ⁷⁴⁶ D Kriebel and M Stoto, ‘The Precautionary Principle in Environmental Science (2001) 109(9) 871-876 at 871.

⁷⁴⁷ See Citation of the [Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.](#)

⁷⁴⁸ B Buzco-Guven and R Harriss, ‘Gas flaring and venting: extent, impacts, and remedies’ 2010 Energy Forum 1-72 at 1-9; J U Orji, ‘Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime’ (2014) 38(2) OPEC Energy Review 149-183; 150.

⁷⁴⁹ Article 3(3) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018]; Article 4 (1) UN General Assembly,

Act of 1979 appears to have taken a precautionary approach. As at the time this law was passed to stop gas flaring in Nigeria, the IPCC was yet to release its first report. The IPCC's first report on climate change was released in 1990,⁷⁵⁰ and there was little information regarding gas flaring and GHG emissions at the time. This shows that the Associated Gas Re-injection Act of 1979 is anticipatory and preventive because this Act was enacted when there was little information about gas flaring and climate change.

4.2.2.5 ASSESSMENT OF THE POLLUTER PAYS PRINCIPLE

As clearly stated in chapter 3, the PPP places a price 'on GHG emissions and requires economic actors to pay for every ton of carbon pollution emitted.'⁷⁵¹ The Associated Gas Re-Injection Act of 1979 recognised the PPP. For instance, section 3(1) of the 1979 Act provides that 'no company engaged in the production of oil or gas shall after 1 January 1984 flare gas produced in association with oil without the permission in writing of the Minister.'⁷⁵² Section 4(1) of the Associated Gas Re-Injection Act 1979 provides stringent sanctions on the operators. This section is to the effect that where an operator flares gas without the consent of the minister after the deadline, that is, 1st of January 1985, 'the person concerned shall forfeit the concessions granted to him in the particular field or fields in relation to which the offence was committed.'⁷⁵³ In furtherance to compelling the operators to comply with the Associated Gas

United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2018].

⁷⁵⁰ IPCC Reports <available <https://www.ipcc.ch/reports/>> Accessed 30th August 2019.

⁷⁵¹ Carbon Pricing Leadership Coalition, available at < <https://www.carbonpricingleadership.org/what> > Accessed 18th May 2020; S Alam, 'Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 8.

⁷⁵² Now [Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.](#)

⁷⁵³ Section 4(1) of the Associated Gas Re Injection Act of the GAS re Injection Act.

re-injection Act of 1979. The Minister of Petroleum⁷⁵⁴ stipulates a penalty of about ‘2 Kobo (less than a pence) for every one thousand standard cubic feet (Mscf) of gas flared.’⁷⁵⁵

The penalty was increased from 2 kobo (less than a pence) to 50 kobo (less than a pence) for every Mscf of gas flared in 1990.⁷⁵⁶ In 1998, the Petroleum Act (Drilling and Production) Regulation made by the minister further increased the penalty from 50 kobo to ₦10 (less than a pence) for every Mscf flared.⁷⁵⁷ The government in 2009 established the National Domestic Gas Pricing and Supply regulation which further increased the penalty from ₦10 to US\$ 3.50 (£2.4) for every MScf of gas flared.⁷⁵⁸ The recent Regulation 2018 by virtue of section 13 states that where an operator produces 10,000 barrels or more in a day, the operator is liable to the Nigerian government for a flare fine of \$2 (£1.4) per 28.317 standard cubic meters (one thousand standard cubic feet) of gas flared.⁷⁵⁹ If the operator produces less than 10,000 barrels of oil in a day, the producer is liable to a fine of \$0.5 (£0.3) per 28.317 standard cubic meters (one thousand standard cubic feet) of gas flared whether or not the flaring is routing.⁷⁶⁰

According to the Nigerian government, the increase of gas flaring penalties in Regulation 2018 would increase government revenue from \$120 (£84.5) million in 2019 to \$270 (£190) million in 2020.⁷⁶¹ The intent of the Nigerian government to increase revenue by imposing sanctions on the MOCs is not new. For instance, in 2012, the Nigerian government fined Shell and others

⁷⁵⁴ Though the Associated Gas Re-injection (Continued Flaring of Gas) Regulation SI 43 of 1984, CapA25LFN2004.

⁷⁵⁵ J U Orji, ‘Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime’ (2014) 38(2) OPEC Energy Review 149-183; 153.

⁷⁵⁶ See the Associated Gas Re-Injection (Amendment) Regulations (1990).

⁷⁵⁷ ₦10 per Mscf in 1998 prescribed by the 1998 Budget.

⁷⁵⁸ Regulation 7 of the National Gas Supply and Pricing Regulation 2008.

⁷⁵⁹ Section 13 (1) of the Flare Gas (Prevention of Waste and Pollution) Regulations 2018.

⁷⁶⁰ Section 13 (2) of the Flare Gas (Prevention of Waste and Pollution) Regulations 2018.

⁷⁶¹ Femi Asu, FG targets N103bn from gas flaring penalty (Punch Newspaper 2020) available at [FG targets N103bn from gas flaring penalty - Punch Newspapers \(punchng.com\)](https://punchng.com/fg-targets-n103bn-from-gas-flaring-penalty/) > accessed 21 April 2021; Amos Abba, How Nigeria lost N439bn to gas flared by oil companies in 2020 (ICIR 2021) available at [How Nigeria lost N439bn to gas flared by oil companies in 2020 \(icirnigeria.org\)](https://icirnigeria.org/how-nigeria-lost-n439bn-to-gas-flared-by-oil-companies-in-2020/) > accessed 21 April 2021.

\$5 billion (£3.5billion) for pollution.⁷⁶² Between 2015, January, to September, the Nigerian government fined the MOCs about ₦1.81 billion (£5m) for contravening the gas flaring laws.⁷⁶³ However, it is not clear if these fines were actually paid to the Nigerian government and if they were paid, what the money is being used for.⁷⁶⁴

The point is that the above sanctions placed on the operators to stop gas flaring clearly incorporate the PPP of the climate change regime. Recalling the fact that the polluter pays principle is shifting the cost of pollution to the polluter.⁷⁶⁵ In this sense, the Associated Gas Re-injection Act of 1979 and the new Regulation 2018 incorporate the PPP, and they play a role in achieving the climate change pledge, especially eliminating gas flaring by 2030 identified in the Nigeria NDC under the Paris Agreement.⁷⁶⁶

However, there are few concerns in relation to these primary laws that are meant to phase out gas flaring. The first issue highlighted by academics is a definitional problem. Academics argued that ‘good oil practice’ was not clearly defined in the laws mentioned above.⁷⁶⁷ For instance, section 25 (1) (3) of the Petroleum Act is to the effect that the Minister may revoke any oil prospecting licence or oil mining lease if the licensee ‘is not conducting operation in accordance with good oil field practice.’⁷⁶⁸ A similar provision is recorded in Regulation 48 of

⁷⁶²C Nwachukwu, BONGA OIL FIELD SPILL: FG fines Shell \$5bn , (Vanguard Newspaper 2012) available at < [BONGA OIL FIELD SPILL: FG fines Shell \\$5bn - Vanguard News \(vanguardngr.com\)](https://www.vanguardngr.com/2012/01/bonga-oil-field-spill-fg-fines-shell-5bn/) > accessed 4th March 2021

⁷⁶³ Michael Eboh, ‘Gas flaring: Oil firms pay N1.8bn fines’ (Vanguard Newspaper January 2016) available at <https://www.vanguardngr.com/2016/01/gas-flaring-oil-firms-pay-n1-8bn-fines/> > Accessed 23rd March 2020 .

⁷⁶⁴ Though it was contended that if fines due are enforced and paid it will amount to about to \$108,285,714(N30,536,571,348). see Deji Adekunle, Premium Times Centre for investigative Journalism available at <https://ptcij.org/blog/issue/infrastructures-cost-of-nigerias-n30-5-billion-gas-flaring-fines/> .> Accessed 22nd March 2020.

⁷⁶⁵ R E Cordato, R.E ‘The Polluter Pays Principle: A proper guide for environmental policy (Institute for Research on the Economics of Taxation 2010) See The Executive Summary.

⁷⁶⁶Chapter four critically discussed these laws as one of the targets areas of the NDC.

⁷⁶⁷ See K Edu, ‘A review of the existing legal regime on exploitation of oil and the protection of the environment in Nigeria’ (2011)37 (2) Commonwealth Law Bulletin, 307-327, 308; A O Ekpu, ‘Environmental impact of oil on water: a comparative overview of the law and policy in the United States and Nigeria’ 1995 (24)1 Denv. J. Int'l L. & Pol'y, 55-180; 80.

⁷⁶⁸See also section 8 (g) of the Petroleum Act.

the Petroleum (Drilling and Production) Regulation. The argument is that the above laws only mention 'good oil practice' without defining what it means to protect the environment or reduce flaring of associated gas. Since good oil practice was not defined, it is subjected to different interpretations for the benefit of the operators.⁷⁶⁹ According to Ekpu, 'good oil practice' might mean to oil producing companies as 'minimizing economic cost of production without regard to safety or environmental care.'⁷⁷⁰ This omission by the law will not encourage international best practices especially reducing emissions from gas flaring.

Critics of the Associated Gas Reinjection Act 1979 also pointed out that the penalties recognised in the laws are too low to compel operators to comply.⁷⁷¹ This means the operators could easily pay the fine to flare gas. In the statement of Chevron, one of the MOCs said, 'gas flaring would cost the company \$ 1 million while the cost of switching from water to gas injection would cost \$56 million.'⁷⁷² This means they prefer to emit or flare the gas and pay the fine rather than reinjecting the gas because these fines are minimal to such companies. Comparing the sanctions contained in the laws regulating gas flaring in Nigerian with Norway, an oil producing country, clearly show that the penalties are low. Norway is the largest oil producer in Western Europe and the third largest gas exporters in the world.⁷⁷³ Norway has

⁷⁶⁹ K Edu, K., 'A review of the existing legal regime on exploitation of oil and the protection of the environment in Nigeria' (2011)37 (2) Commonwealth Law Bulletin, 307-327, 308; A O Ekpu, 'Environmental impact of oil on water: a comparative overview of the law and policy in the United States and Nigeria' 1995 (24)1 Denv. J. Int'l L. & Pol'y, 55-180; 80.

⁷⁷⁰ A O Ekpu, 'Environmental impact of oil on water: a comparative overview of the law and policy in the United States and Nigeria' 1995 (24)1 Denv. J. Int'l L. & Pol'y, 55-180; 79.

⁷⁷¹ F I Ibitoye, 'Ending Natural Gas Flaring in Nigeria's Oil Fields (2014) 7 (3) Journal of Sustainable Development, 7(3) 13.-22 at 14 ; O Anslem Ajugwo, 'Negative effects of gas flaring: The Nigerian experience (2013) 1 (6) Journal of Environment Pollution and Human Health 1, no. 1 (2013): 6-8 at 8 ; J U Orji, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) OPEC Energy Review at 153.

⁷⁷² J U Orji, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) OPEC Energy Review 149-183; 154.

⁷⁷³ US Energy Information Administration, Background Reference: Norway (EIA 2019) page 2 available at [Background Reference: Norway \(eia.gov\)](https://www.eia.gov/energy_reference/norway/) > Accessed 21 April 2021.

successfully reduced its gas flaring⁷⁷⁴ and emissions of GHG.⁷⁷⁵ One of the key legal instruments that helped Norway is the Carbon tax 9991, which was reviewed in 2015.⁷⁷⁶ The CO2 tax incorporates PPP, and it applies to Petroleum Activities on the Continental Shelf, mineral production, gasoline, and diesel use on the road; diesel use in domestic water etc.⁷⁷⁷ The carbon tax in relation to offshore petroleum production in 2013 is NOK200 (\$29.47) per tonne.⁷⁷⁸ During the presentation of its climate plan 2021 to 2030, the Norwegian government announced to raise CO2 tax to 2,000 Norwegian crowns (\$237) (£166.9) per tonne by 2030 to meet up its climate change target.⁷⁷⁹

Aside from the low penalties identified by critics. The penalties in the law regulating gas flaring in Nigeria are restricted to gas flaring and venting activities. Other industrial activities such as cement processing, coal mining, waste that emit CO2 are left out. Unlike the Norwegian CO2 tax law, which application is open to various sectors that emit GHG, including gas flaring and venting.⁷⁸⁰ This is also the case of the South African Carbon Tax Act; it imposes a carbon tax on every entity that carries out activities that emit GHG beyond the approved threshold listed in Schedule II of the Act.⁷⁸¹ Such activities include but are not limited to fuel combustion, heat and electricity recovery from waste, petroleum refining, iron and steel, chemical production,

⁷⁷⁴ Etienne Romsom and Kathryn McPhail, Capturing economic and social value from hydrocarbon gas flaring and venting: solutions and actions 2021 (6) WIDER Working paper at 1.

⁷⁷⁵ Norway's Fourth Biennial Report Under the Framework Convention on Climate Change, (Norwegian Ministry of Climate and Environment 2020) At 16.

⁷⁷⁶ Norway's Fourth Biennial Report Under the Framework Convention on Climate Change, (Norwegian Ministry of Climate and Environment 2020) At 16.

⁷⁷⁷ Norway's Fourth Biennial Report Under the Framework Convention on Climate Change, (Norwegian Ministry of Climate and Environment 2020) at 20, 34, 38.

⁷⁷⁸ Michal Nachmany, climate change legislation in Norway an excerpt from the 2015 Global Climate Legislation Study A Review of Climate Change Legislation in 99 Countries (The Global Legislators Organization 2015) 2-13.

⁷⁷⁹ N Buli, Norway's plans to raise carbon tax draw oil industry ire (Reuters 2021) available at [Norway's plans to raise carbon tax draw oil industry ire | Reuters > accessed 20th March 2021.](#)

⁷⁸⁰ Norway's Fourth Biennial Report Under the Framework Convention on Climate Change, (Norwegian Ministry of Climate and Environment 2020) at 20, 34, 38.

⁷⁸¹ Section 3 of the Carbon Tax Act of Republic of South Africa 2019 available at https://www.gov.za/sites/default/files/gcis_document/201905/4248323-5act15of2019carbontaxact.pdf > accessed 13th June 2019.

transport equipment, food processing, beverage and tobacco, and many other activities too numerous to mention.⁷⁸² The Act expressly sets dates of increment of the tax to achieve the reduction of emissions of GHG. According to the Act, the amount of the tax to be paid is R120 per ton carbon dioxide equivalent, the rate of the tax will be increased after 31st December 2022⁷⁸³ to achieve its emission reduction pledged in the Paris Agreement. The Norwegian and South African examples discussed above, that is, the extension of the PPP to reduce GHG emissions in various sectors that emits CO₂ is not seen in the primary climate change-related laws in Nigeria.

4.2.2.6 KEY FINDINGS FROM THE ANALYSIS ON PRIMARY LEGISLATION

The primary laws made by the Nigerian Parliament that relate to climate change were in existence before the UNFCCC 1992, Kyoto Protocol 1997, the Paris Agreement 2015 as well as the Nigeria NDC. The key primary laws such as the Petroleum Act 1969, the Petroleum (Drilling and Production) Regulation of 1969, and the Associated Gas Re-injection Act 1979 were all in existence before the climate change regime except Regulation 2018. Regulation 2018 is post climate change agreement, but it did not introduce anything new other than increased gas flaring penalties, giving the Nigerian government a right to request flare gas data, etc.⁷⁸⁴ The intention of Regulation 2018 is similar to the Associated Gas Re-injection Act 1979, which is to phase out gas flaring in Nigeria.

As already highlighted, these laws incorporate the PP and PPP. However, they are strictly targeted to reduce GHG emission in only gas flaring activities, other sectors that emit GHG

⁷⁸² See Schedule II of the Carbon Tax *ibid*.

⁷⁸³ Section 5 of the Carbon Tax Act *ibid*.

⁷⁸⁴ Section 4 (1) and 2 Federal Republic of Nigeria Official Gazette N0. 88 Vol 105; The Flare Gas (Prevention of Waste and Pollution) Regulations 2018.

such as cement industries, waste, coal, and many others are not regulated by any Act of national assembly. The implication is that companies that emit GHG in industries other than oil and gas can emit GHG without restrictions.

This thesis contends that even if the Associated Gas Re-injection Act 1979 and Regulation 2018 succeed in reducing emissions in gas flaring, other sectors such as cement industries, waste, coal, will continue to emit. The carbon tax laws of different countries that PPP drove are meant to apply to several sectors that emit GHG. The examples of Norway and South Africa clearly show the general application of PPP to reduce GHG emissions.⁷⁸⁵ Therefore, there is a need for primary legislation that imposes penalties in key sectors highlighted in the Nigeria Biennial Report 2018 that emits GHG in Nigeria. However, note that few existing regulations are issued by the National Environmental Standard and Regulations Enforcement Agency, which may help few activities such as waste and cement industries that emit GHG in Nigeria. This is discussed in section 4.2.3.

4.2.3 REGULATIONS INDIRECTLY REGULATING CLIMATE CHANGE

The following laws listed below do not incorporate the principles of climate change, but they can assist the Nigerian government in reducing GHG emissions, especially in the waste sector.

They are:

- The National Environmental Standard and Regulations Enforcement Agency (Establishment) Act 2007⁷⁸⁶
- The National Environmental (Sanitation and Wastes Control) Regulations, 2009
- National Environmental Protection (Effluent Limitation) Regulations 1991

⁷⁸⁵ See section 4.2.2.5 assessment of the polluter pays principle

⁷⁸⁶ National Environmental Standards and Regulations, Enforcement Agency (Establishment) Act, 2007.

- National Environmental (Base Metals, Iron and Steel Manufacturing/Recycling Industries Sector) Regulations, 2011

4.2.3.1 THE NATIONAL ENVIRONMENTAL STANDARD AND REGULATIONS ENFORCEMENT AGENCY (ESTABLISHMENT) ACT (NESREA)⁷⁸⁷

The Nigerian Parliament first established NESREA in 1998 with the title Federal Environmental Protection Agency (FEPA), and it was later amended and renamed in 2007 as National Environmental Standard and Regulations Enforcement Agency (NESREA).⁷⁸⁸ As the title of the Act suggests, one of the agency's major functions is to enforce environmental standards to protect the environment.⁷⁸⁹ The Act also mandates the NESREA to enforce international environmental agreements signed and ratified by the Nigerian government 'including climate change, biodiversity, conservation, desertification, forestry...'⁷⁹⁰ The literal interpretation of this function recognised by the Act suggests that NESREA can enforce climate change agreements at the domestic level. This position was subscribed to by Koblowsky when he asserted that FEPA '...can be regarded as the initial point for all successive governmental institutions and agencies in the environmental sector, including climate change related matters'⁷⁹¹

The point must be made here that NESREA is not primarily established to implement climate change obligations in Nigeria. Though, section 7 (c) of NESREA merely mentions climate change. Aside from section 7 (c), there is no other provision in the Act that deals with the

⁷⁸⁷ Ibid.

⁷⁸⁸ Ibid Section 1(1).

⁷⁸⁹ National Environmental Standards And Regulations Enforcement Agency (NESREA) <http://www.nesrea.gov.ng/> accessed on 5 February 2019; Lawrence Anukum, 'NESREA urges compliance with EPR policy on solid waste' [The Guardian 2015] <<http://guardian.ng/property/nesrea-urges-compliance-with-epr-policy-on-solid-waste/>> accessed 25 March 2019

⁷⁹⁰ Ibid Section 7(c). [National Environmental Standards and Regulations, Enforcement Agency \(Establishment\) Act, 2007](#) Though this section also mentioned oil and the gas sector, however, it is the editor's error to have left oil and gas in this section.

⁷⁹¹ P Koblowsky and C Speranza, 'Institutional challenges to developing a Nigerian climate policy (2010) boris.unibe.ch 11; R O ADEOLUWA, 'Assessment of Legal Frameworks on Environment and Climate Change Enforceable in Nigeria by The National Environmental Institution 2019 1(3) International Review of Law and Jurisprudence (IRLJ) 81-90.

implementation of basic climate change issues⁷⁹² except waste management. Besides, the functions outlined by the establishing Act of NESREA are purely general environmental issues affecting Nigeria, such as the enforcement of guidelines on water quality, environmental sanitation.⁷⁹³ NESREA's function also includes compliance on issues that deal with importation and exportation of products that are harmful to the environment,⁷⁹⁴ noise control,⁷⁹⁵ environmental sanitation,⁷⁹⁶ and other related matters.⁷⁹⁷ In fact, academics criticized NESREA that its primary functions, such as sanitation and prevention of dumping harmful substances into Nigeria's environment, are yet to be achieved.⁷⁹⁸ Apparently, NESREA cannot be considered an institution that deals primarily with climate change. However, as already highlighted above, NESREA, as an agency, will support the Nigerian government to mitigate GHG in the waste sector. For instance, the following key regulations⁷⁹⁹ passed by NESREA could help reduce emissions of GHG in the waste and industrial sectors.

4.2.3.2 THE NATIONAL ENVIRONMENTAL (SANITATION AND WASTES CONTROL) REGULATIONS, 2009,⁸⁰⁰ AND NATIONAL ENVIRONMENTAL PROTECTION (EFFLUENT LIMITATION) REGULATIONS 1991.⁸⁰¹

⁷⁹² such as renewable energy development discussed in Chapter 5 and forest development discussed in Chapter 6
⁷⁹³Section 7 d) [National Environmental Standards and Regulations Enforcement Agency \(Establishment\) Act, 2007.](#)

⁷⁹⁴ Ibid Section 7 g.

⁷⁹⁵ Ibid Section 22.

⁷⁹⁶ Ibid Section 25.

⁷⁹⁷ Ibid Section 7.

⁷⁹⁸ R O Adeoluwa, 'Appraisal of the operationalisation of national environmental regulations in Nigeria under the national environmental standards and regulations enforcement agency' 2008 (9) 2 Nnamdi Azikiwe University Journal of International Law and Jurisprudence 199-215. L Nduonofit and O A Ekpenyong, 'Limitations And Drawbacks Of Nigeria's Environmental Protection Law (1980–2010)' (2015) 3 (1) International Journal of Innovative Environmental Studies Research, 18; U B Akamabe and G Kpae, 'A critique on Nigeria national policy on environment: Reasons for policy review (2017)' 3 (3) IIARD International Journal of Geography and Environmental Management, 22-36 at 32

⁷⁹⁹The national environmental (sanitation and wastes control) regulations, 2009, national environmental protection (effluent limitation) regulations 1991 national environmental (base metals, iron, and steel manufacturing/recycling industries sector) regulations, 2011.

⁸⁰⁰ Regulations No. 28 of 2009, Vol. 96, No. 60.

⁸⁰¹ [S.I. 8 of 1991.] 15th August 1991.

It is important to note that the waste sector of Nigeria contributes (3.0%) GHG emissions in Nigeria in 2015.⁸⁰² The waste sector emissions stem from activities such as indiscriminate ‘disposal of solid wastes through landfilling, dumping, incineration, open burning, and treatment of domestic and industrial liquid wastes.’⁸⁰³ It has been said that the problem of waste management in Nigeria is first; the citizens are not properly educated to sort waste generated.⁸⁰⁴ Second, the challenges inherent in the collection and disposal of waste.⁸⁰⁵ For instance, solid wastes (comprised of municipal or industrial) are heaped up in different locations in the cities. In order to reduce the large volume of refuse, the common practice is to burn them. About 90% of industrial solid waste ends up in various dumping sites, and they are burnt to reduce the volume, especially when the volume is very high.⁸⁰⁶ This burning of solid waste is also practiced in rural areas due to the inability of collection.⁸⁰⁷ The Biennial Report of the Federal Republic of Nigeria (2018) on climate change confirmed that about 30% of the urban population result to open burning while 40% of the rural population practice open burning.⁸⁰⁸

In the case of wastewater from domestic and industry, the challenge is treatment. That is, wastewater is untreated. Wastewater ends up in ‘septic tanks and latrines while a portion is also discharged through closed sewers/channels into rivers, seas, and lakes.’⁸⁰⁹ The truth is that

⁸⁰² Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 85.

⁸⁰³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC).

⁸⁰⁴ E Amasuomo and J Baird, ‘Solid waste management trends in Nigeria (2016) 6(4) J. Mgmt. & Sustainability 6-35, 39.

⁸⁰⁵ D Olukanni and D Aremu, ‘A review of local factors affecting solid waste collection in Nigeria Pollution (2016) 2(3) Summer 339-356, 341; Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 33.

⁸⁰⁶ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 110.

⁸⁰⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 111.

⁸⁰⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 113.

⁸⁰⁹ Ibid.

waste either in a solid form that was subjected to open burning or untreated wastewater⁸¹⁰ emits CO₂, CH₄, and N₂O.⁸¹¹ As the Biennial Report affirmed, 3% of GHG emissions were recorded from these activities discussed above.

These issues could be dealt with effectively under the National Environmental (Sanitation and Waste Control) Regulation 2009,⁸¹² the National Environmental Protection (Effluent Limitation) Regulation 1991,⁸¹³ and the National Environmental (Control of Bush/ Forest Fire and Open Burning) Regulations, 2011.⁸¹⁴ These are regulations passed by NESREA. However, the Nigeria NDC does not capture the waste sector as one of the areas to be specifically addressed before 2030.⁸¹⁵ As earlier highlighted, the waste sector emits 3% of the GHG in Nigeria, and as such, it is one of the concerns. Besides, Article 4 (1) c of UNFCCC encourages member nations to reduce emissions of GHG in different sectors, including ‘waste management sectors.’ So, these existing regulations have the potential to help the Nigerian government to mitigate emissions of GHG from this sector.

The National Environmental (Sanitation and Wastes Control) Regulation, 2009 applies to solid waste generated from the community, industry etc.⁸¹⁶ The purpose is to ensure sustainable and environmentally friendly practices in terms of sanitation and waste management.⁸¹⁷ This is to reduce pollution in the country.⁸¹⁸ One of the most important aspects of this regulation is that the law requires an occupier of premises to provide waste containers to store waste before a

⁸¹⁰ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 118.

⁸¹¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 117.

⁸¹² Regulations No. 28 of 2009, Vol. 96, No. 60.

⁸¹³ [S.I. 8 of 1991.] 15th August 1991.

⁸¹⁴ S.I. No. 15 Gazette No 42. Vol. 98 of 6th May 2011.

⁸¹⁵ See Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 9.

⁸¹⁶ Regulation 107 para 7.

⁸¹⁷ Regulation 2.

⁸¹⁸ Ibid.

licensed waste manager collects them.⁸¹⁹ Not only that, offences⁸²⁰ and penalties⁸²¹ were created to comply with this regulation.

The National Environmental Protection (Effluent Limitation) Regulations 1999⁸²² is meant for liquid waste. Regulation 1(1) is to the effect that ‘[E]very industry shall install antipollution equipment for the detoxification of effluent and chemical discharges emanating from the industry.’ Regulation 3 is to the effect that ‘an industry which discharges effluent shall treat the effluent to a specified level provided by the regulation.’⁸²³ Though, the National Environmental Protection (Effluent Limitation) Regulations 1999 was repealed in 2007. However, its provisions are relevant to liquid waste generated from industries.

Indiscriminate burning of waste could be nipped in the bud if the National Environmental (Control of Bush/ Forest Fire and Open Burning) Regulations, 2011 is effectively enforced. Since the purpose of the National Environmental (Control of Bush/ Forest Fire and Open Burning) Regulations, 2011 is to ensure the deliberate reduction of the ecosystem by setting fire and burning any materials that may constitute air pollution.⁸²⁴ The provision of this regulation could be extended to indiscriminate burning of solid waste practice across the country. These regulations appear to have adopted the general obligations of mitigation in accordance with the international climate change obligations.

However, the effectiveness of these regulations is doubtful. It has been said that NESREA regulations appear overarching, but the enforcement of these regulations to achieve the

⁸¹⁹ Regulation 23.

⁸²⁰ Regulations 71- 93.

⁸²¹ Regulations 94-104.

⁸²² [S.I. 8 of 1991.] 15th August 1991.

⁸²³ See schedule 2.

⁸²⁴ Regulation 1.

objectives is not given maximum attention.⁸²⁵ Laden, who reviewed these regulations in 2012 a few years after the regulations were issued, highlighted that the regulations would help protect the environment since most of them carry sanctions.⁸²⁶ Thus far, it appears not much difference has been made in practice as scholars still emphasise that the management of waste is a big problem in Nigeria.⁸²⁷ Therefore, proper education and awareness campaigns regarding waste management need to be prioritised by these regulations.

*4.2.3.3 NATIONAL ENVIRONMENTAL (BASE METALS, IRON AND STEEL MANUFACTURING/RECYCLING INDUSTRIES SECTOR) REGULATIONS, 2011.*⁸²⁸

This regulation applies to the iron and steel industries.⁸²⁹ The regulation mandates every organisation or corporation to ‘prepare a voluntary action programme for global warming control measures.’⁸³⁰ One important part of this regulation is that it requires the corporation to pay penalties for violation.⁸³¹

It is important to note that the Industrial Processes and Product emits just 1% of the GHG in Nigeria.⁸³² Emissions from this sector are basically from ‘by-products during industrial processes for the manufacture of new products.’⁸³³ The truth is that some of the regulations initiated in the waste sector, such as National Environmental (Sanitation and Wastes Control)

⁸²⁵R O Adeoluwa, ‘Appraisal of the operationalization of national environmental regulations in Nigeria under the national environmental standards and regulations enforcement agency (2018) 9 (2) Nnamdi Azikiwe University Journal of International Law and Jurisprudence, 199-215. 215.

⁸²⁶M T Ladan, ‘Review of NESREA act 2007 and regulations 2009-2011: a new Dawn in environmental compliance and enforcement in Nigeria (2012) Law Env't & Dev. J., 8-116,137.

⁸²⁷D O Omole and M J Ndambuki, ‘Waste management practices in Nigeria: Impacts and mitigation in Geological Society of America Special Papers (2016) 520, 383.

⁸²⁸ S.I. No.14, Gazette No. 41. Vol. 98 of 4th May 2011.

⁸²⁹ See the interpretation of Facility in Regulation 57.

⁸³⁰ Regulation 8.

⁸³¹ Regulation 6; Regulation 87.

⁸³²Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 93

⁸³³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 111.

Regulations, 2009⁸³⁴ and National Environmental Protection (Effluent Limitation) Regulations⁸³⁵ including National Environmental (Base Metals, Iron and Steel Manufacturing/Recycling Industries Sector) Regulations, 2011 could help reduce emissions of GHG in industrial processing. The waste sector and the industrial sector are linked together. The same regulations apply to both sectors.

4.2.3.4 KEY FINDINGS FROM THE ANALYSIS OF LAWS INDIRECTLY REGULATING CLIMATE CHANGE

The first point to note is that the laws indirectly regulating climate change were in existence before the Paris Agreement, Nigeria NDC, and the SDGs. The implication is that they are not specifically aiming to reduce the emission of GHG in Nigeria. As highlighted above, the indirect laws are issued by NESREA. The Nigerian Parliament sets up NESREA as an agency to deal with wide environmental issues, including noise control, importation, and exportation of harmful products to the environment. However, some of its regulations highlighted above specifically deal with waste management, and this could reduce GHG emissions in both the waste and industrial sectors that emit 3% and 1% of GHG emissions in Nigeria. The effectiveness of these Regulations is doubtful due to a lack of enforcement.

Second, the waste and industrial sectors are not covered by Nigeria's NDC. The Nigeria NDC covers just the energy and the forest sectors.⁸³⁶ This means the waste and industrial sectors are not within the major commitments of the Nigerian government under the Paris Agreement. Even though the waste and industry are not part of the Nigeria NDC, there is a need to commit to reducing emission in these sectors because they contribute 3% and 1%, respectively.⁸³⁷

⁸³⁴ Regulations No. 28 of 2009, Vol. 96, No. 60.

⁸³⁵ [S.I. 8 of 1991.] 15th August 1991.

⁸³⁶ See section 3.5 the Paris agreement and nationally determined contribution (NDC).

⁸³⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 85 and 93.

4.3 THE ROLE OF THE EXECUTIVE AND CLIMATE CHANGE INTEGRATION

The Executive arm of the government is very important, especially to achieve the international climate change obligations in Nigeria. The reasons are that the Executive arm of the government, through the President, negotiates climate change agreements on behalf of the country. The full implementation of the climate change agreements and any other climate change laws made by the Nigerian Parliament rest on Nigeria's Executive arm.⁸³⁸ No Bill initiated by the Parliament of Nigeria will become an Act except the president, who is also the head of the government's executive arm, assents to such Bill⁸³⁹ As we have seen in the Climate Change Bill of Nigeria, without the president's approval, it will never become an Act except override by the Parliament by two third majority.⁸⁴⁰

Again, the Executive arm of the government is also empowered to initiate policies, programmes, plans of climate change measures that would cut down the emissions of GHG and reduce the impacts of climate change if it is willing and able. So, the Executive arm plays a vital role in the actualisation of the Nigerian international climate change obligations.

For the past few decades, even before the Nigerian government signed and ratified the UNFCCC, the Kyoto Protocol, and the Paris Agreement, the government's Executive arm had developed a number of policies that directly or indirectly deal with climate change. Some of the policies initiated by the Executive are multisectoral – they cover several sectors such as energy, agriculture, forestry, and many more. The key multisectoral climate change-related policies initiated by the Executive arm of the Nigerian government include but are not limited

⁸³⁸ Section 5 (1) b of the Constitutional Federal Republic of Nigeria 1999 as Amended.

⁸³⁹ Section 58 (3) *ibid.*

⁸⁴⁰ Section 58 (5) of the CFRN 2010 as Amended; how the parliament can override the president is explained in section [8.2.7 parliament to update and pass the climate change bill into law](#).

to the National Policy on Climate Change 2013, the Nigeria Vision 20:2020, and the National Adaptation Strategy and Plan of Action on Climate Change for Nigeria 2012.

4.3.1 THE NATIONAL POLICY ON CLIMATE CHANGE (NPCC) 2013

The number one policy that deals with climate change in Nigeria is the NPCC issued by the Department of Climate Change under the Ministry of Environment.⁸⁴¹ It was described as the flagship of Nigeria's approach to climate change.⁸⁴² The NPCC was adopted by the Federal Executive Council in 2012⁸⁴³ and came into force in October 2013.⁸⁴⁴ The NPCC is a multi-sectoral—this means the plan covers about 14 sectors.⁸⁴⁵

One of the issues to note in the NPCC is the key objectives stated on the face of the document. A critical survey of the policy unveils the following key objectives. First, the NPCC encourages and implements mitigation actions to foster low carbon and improve a sustainable high growth economy. Second, it aims to improve Nigeria's capacity to adapt to climate change; and third, to improve science and technology relating to climate change that will enable the country to participate in the international science and technology on climate change. Fourth, the NPCC encourages climate change implementing agencies to educate the public regarding climate change issues.⁸⁴⁶

⁸⁴¹ Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013.

⁸⁴² M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the Global Climate Legislation Study A Review of Climate Change Legislation in 66 Countries (Fourth Edition 2014) 421.

⁸⁴³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 122.

⁸⁴⁴ M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the Global Climate Legislation Study A Review of Climate Change Legislation in 66 Countries (Fourth Edition 2014) 421.

⁸⁴⁵ They are energy, agriculture, forestry, transportation, fishery, livestock, water, coastal areas, health, culture and tourism, human settlement etc ; See the Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013 39-59; Ibid 421-423.

⁸⁴⁶ Ibid 35.

4.3.2 ASSESSMENT OF NPCC AGAINST THE PRINCIPLES OF CLIMATE CHANGE

The NPCC appears to have recognised the principle of Sustainable Development (SD), especially in its objective when it says the goal is to ‘implement mitigation measures that will promote low carbon use for sustainable high economic growth.’⁸⁴⁷ It briefly stated some strategies such as the use of electric vehicles in the transport sector,⁸⁴⁸ renewable energy in the energy sector,⁸⁴⁹ and sustainable agriculture⁸⁵⁰ to attain the low carbon economy. According to the Nigerian government, the implementation of the Nigeria NDC will fall under the remit of the NPCC adopted in 2012.⁸⁵¹

Aside from SD, the NPCC also recognises public participation. The NPCC clearly states that one of its strategic objectives is to raise public awareness as well as to ‘involve private sector participation in addressing the challenges of climate change.’⁸⁵² Raising public awareness and involving the private sector will enable citizens to be part of implementation process of climate change at all levels—federal, state, local, and community.⁸⁵³

However, the NPCC is silent on PPP and PP. Aside from PPP and PP, the NPCC does not contain any specific date and year to achieve the objectives outlined. Despite the fact that there is no specific date, the NPCC targets more than 14 sectors, including energy, agriculture, forestry, transportation, fishery, livestock, water, coastal areas, health, culture and tourism,

⁸⁴⁷ Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013 at 35.

⁸⁴⁸ Ibid 46.

⁸⁴⁹ Ibid 40.

⁸⁵⁰ Ibid 41-42.

⁸⁵¹ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 18-19

⁸⁵² Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013 11.

⁸⁵³ Ibid 15.

human settlement,⁸⁵⁴ where the Nigerian government will channel its resources in the fight against climate change. There is nothing wrong with having a national climate change strategy that covers major sectors but prioritizing key areas to tackle climate change will give clarity and focus to the implementing agencies as to where to channel money in the course of implementing the policy. This is important in the case of Nigeria, where the Nigeria NDC clearly highlights two major sectors: forest and energy, which require attention and money from the Nigerian government for the time being. In this manner, the NPCC is not aligned with the Nigeria NDC.

Again, prioritising key areas of needs to tackle climate change in national strategy is important because national climate change plans that prioritise key areas enable the government to direct funds to key priority areas.⁸⁵⁵ This prioritising key area of national needs is seen in the UK, where the Climate Change Act 2008 requires the UK government to make a Climate Change Risk Assessment every five years.⁸⁵⁶ The Climate Change Risk Assessment identified six key areas based on the current understanding of climate risk and opportunities, and these areas are where government action is needed for the next five years. The present UK National Adaptation Plan 2017 is set to address the key six areas for the next five years.⁸⁵⁷ This kind of arrangement is absent in the NPCC.⁸⁵⁸

⁸⁵⁴ Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013 39-59; Ibid 421-423.

⁸⁵⁵ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 7-9 https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf > Accessed 21st March 2020.

⁸⁵⁶ Department for Environment food and rural Affairs, 'The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting' 2018 pages 2-3 available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727252/national-adaptation-programme-2018.pdf > Accessed 2nd February 2018.

⁸⁵⁷ Department for Environment food and rural Affairs, 'The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting' 2018 pages 2-3 available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727252/national-adaptation-programme-2018.pdf > Accessed 2nd February 2018 .

⁸⁵⁸ The need to prioritise key areas of climate change policy is further explained in section 7.2.3.3 the DCC'S capacity to access fund.

4.3.3 NIGERIA VISION 20:2020.⁸⁵⁹

The Nigerian government-initiated Vision 20:2020 (NV20:2020) in 2009, and it came into force in 2010.⁸⁶⁰ NV20:2020 is a blueprint of the economic transformation of Nigeria targeted for eleven years, that is, from 2009-2020.⁸⁶¹ One of the primary aims of the NV20:2020 is to enhance economic growth from sustainable environmental governance.⁸⁶² But it recognised the potential constraint climate change poses to the Nigerian economy's current and future growth. The NV20:2020 is to the effect that '[d]eveloping effective responses to the threats of climate change will be very critical to her success in achieving the goal of NV20:2020'.⁸⁶³

The NV20:2020 recognises SD especially, developing renewable energy in the country. For instance, the NV20:2020 plan is to increase hydropower to 25% by 2013, increase wind energy to 10MW by 2013, increase solar energy capacity to 10MW by 2013, increase biomass power generation capacity to 1,000 MW.⁸⁶⁴ The NV20:2020 also intends to increase Nigeria's forest cover from 6% to 10% and reduce losses and impacts due to floods and drought by 10% by 2013.⁸⁶⁵ This is in line with Article 5 (2) of the Paris Agreement, where Parties are encouraged to reduce emissions of GHG from deforestation and forest degradation.

The NV20:2020 specifically sets out target years and dates for the achievement of its objectives 2009-2020.⁸⁶⁶ However, there are few issues regarding NV20:2020. First, NV20:2020 has expired. All the goals and targets were meant to be achieved between 2009-2020. This is 2021; most of the target dates set out to achieve economic objectives, including climate change-

⁸⁵⁹ Date of Entry 2010.

⁸⁶⁰ 'Nigeria Vision 20:2020' (Federal Ministry of Budget and National Planning 2009) 83 <http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/nigeria/nigeria-vision-20-20-20.pdf> accessed 26 January 2019.

⁸⁶¹ Ibid.

⁸⁶² Ibid, M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the Global Climate Legislation Study A Review of Climate Change Legislation in 66 Countries (Fourth Edition 2014) 423.

⁸⁶³ Ibid.

⁸⁶⁴ Ibid.

⁸⁶⁵ Ibid.

⁸⁶⁶ Ibid.

related targets, were unsuccessful.⁸⁶⁷ In fact, this document was described as ‘white elephant targets.’⁸⁶⁸ The most crucial point to note is that NV20:2020 has expired and is unlikely to play any vital role in the achievements of Nigeria’s climate change obligations in the future.

4.3.4 NATIONAL ADAPTATION STRATEGY AND PLAN OF ACTION ON CLIMATE CHANGE FOR NIGERIA (NASPA-CCN)⁸⁶⁹

The NASPA-CCN was prepared by the Building Nigeria's Response To Climate Change (BNRCC) project for the Nigerian government.⁸⁷⁰ The BNRCC project is funded by the Canadian International Development Agency.⁸⁷¹ The aim of the BNRCC project is to help the Nigerian government implement adaptation policies at both national, state, and community levels.⁸⁷² NASPA-CCN is adaptation strategies, plans, and actions needed to ameliorate the impacts of climate change in Nigeria.⁸⁷³

NASPA-CCN identified key areas Nigeria is presently suffering due to the impacts of climate change and proffered 19 strategies for key areas in the country. Some of the key strategies outlined by the plan are strategy in agriculture, freshwater resource, forests, biodiversity, health and sanitation, human settlements and housing, energy, transportation and communications,

⁸⁶⁷K Asaju and A Akume, ‘Vision 20: 2020: Realities and Challenges (2012) 10 (2) *Jorind* 275-281, 275 ; Report of the Vision 2020 National Technical Working Group on Environment and Sustainable Development’ (Federal Ministry of Budget and National Planning 2009) 26 <http://www.nationalplanning.gov.ng/index.php/national-plans/nv20-2020> > accessed 26 October 2018 ; Ebuka Onyeji, Analysis: Why Nigeria’s Vision 20:2020 was bound to fail (Premium Times 2020) available at < [ANALYSIS: Why Nigeria’s Vision 20:2020 was bound to fail \(premiumtimesng.com\)](http://www.premiumtimesng.com) > accessed April 4th 2021.

⁸⁶⁸ ‘A Report On The Progress Of Nigeria’s Intended Nationally Determined Contribution (INDC) 2018 Panafri Centre for Climate Policy < <http://paccpolicy.org/wp-content/uploads/2017/04/A-report-of-Nigeria-Progress-on-the-INDC.pdf>> accessed 14th June 2019 ; A O Inegbenebor, and O Onyisi, ‘Nigeria Vision 20: 2020; Review of Current Status Using Re Development and Gross Domestic (2018) IOP at 8.

⁸⁶⁹ Building Nigeria’s Response to Climate Change (BNRCC), ‘National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) available at < <http://csdevnet.org/wp-content/uploads/NATIONAL-ADAPTATION-STRATEGY-AND-PLAN-OF-ACTION.pdf> > Accessed 2nd February 2018.

⁸⁷⁰ *ibid.*

⁸⁷¹ R U Onyeneke and C A Nwajiuba, ‘Evidence-Based Policy Development: National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) 2020 (African Handbook of Climate Change Adaptation,1-18.

⁸⁷² *Ibid.*

⁸⁷³ M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the 2015 Global Climate Legislation Study A Review of Climate Change Legislation in 99 Countries 417-424.

industry and commerce, disaster, migration and security, livelihoods, vulnerable groups, and education.⁸⁷⁴ In other words, NASPA-CCN strategy recognised that the impacts of climate change affect every sector and proposes a strategy that will integrate adaptation in line with sustainable development in Nigeria.⁸⁷⁵ This is the position pushing by the IPCC, which called for ‘Climate-Resilient Pathways’—that is, combining adaptation and mitigation measures to realise the goal of sustainable development.⁸⁷⁶ NASPA-CCN recommends that the Nigerian government should decentralise renewable energy resources,⁸⁷⁷ and develop a community based sustainable forest management.⁸⁷⁸

The point is that NASPA-CCN is an important document due to the extensive adaptation strategies contained in the policy.⁸⁷⁹ It is not clear if the Nigerian government has formally adopted this document as part of its climate change policies. Nachmany and Townshend claimed that the Executive arm of the government did not formally adopt NASPA-CCN.⁸⁸⁰ However, the Nigerian government previous publications submitted to the COP, especially the Biennial Update Report 2018, listed NASPA-CCN as one of the climate change policies.⁸⁸¹ Also, the Department of Climate Change, the number one climate change institution of Nigeria, outlined NASPA-CCN as one of the climate change policies in Nigeria.⁸⁸² This research is of

⁸⁷⁴ Building Nigeria’s Response to Climate Change (BNRCC), ‘National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011) 1- 82.

⁸⁷⁵ Ibid.

⁸⁷⁶F Denton, 2014: Climate-resilient pathways: adaptation, mitigation, and sustainable development. In: Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA,) 1101-1131

⁸⁷⁷ At 48.

⁸⁷⁸ At 41.

⁸⁷⁹F O Odemerho, ‘Building climate change resilience through bottom-up adaptation to flood risk in Warri, Nigeria 2015 27(1) Environment and Urbanization 139-160; C Nwajiuba, ‘Nigeria’s agriculture and food security challenges. Available on www.boell.org/downloads/4_Green_Deal_Nigeria_AGRICULTURE.pdf. Accessed 31st August 2019.

⁸⁸⁰ M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the 2015 Global Climate Legislation Study A Review of Climate Change Legislation in 99 Countries 419.

⁸⁸¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 156-157

⁸⁸²Department of Climate Change > <http://climatechange.gov.ng/climate-knowledge/official-publications/policies/> >accessed 12 January 2019.

the view that NASPA-CCN is likely to play a vital role in climate change adaptation in Nigeria if the strategies contained in the policy are implemented.

It is important to note that there are other sectoral policies issued by Ministries Departments and Agencies of Nigeria, which is part of the executive arm of government, specifically targeted to mitigate and adapt to climate change in the energy and forest sectors. These instruments include but are not limited to National Energy Policy 2018,⁸⁸³ National Renewable Energy and Energy Efficiency Policy 2015,⁸⁸⁴ Sustainable Energy for All Action Agenda 2016,⁸⁸⁵ Bio-fuel policy 2007,⁸⁸⁶ and approved Forest Policy 2006 to reduce emissions of GHG in both energy and forest sectors. These policies are analysed and discussed in chapters five and six of this thesis.

4.4 CONCLUSION

The investigation of this chapter reveals the key existing climate change-related laws and policies made by the Nigerian Parliament. The Climate Change Act of Nigeria creates an institution to combat climate change in Nigeria. For instance, the NCCC and the Climate Change Agency is an institutional framework that will help the Nigerian government at the domestic level in the climate change regime. The Act also recognises key principles such as

⁸⁸³Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019.

⁸⁸⁴ National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria < <http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

⁸⁸⁵ Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

⁸⁸⁶ Federal Republic of Nigeria Official Gazette of the Nigerian Bio-fuel Policy and Incentives > <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/1517.pdf> > accessed 1st January 2019.

public participation and SD, which are some of the principles of the climate change regime. However, the Climate Change Act of Nigeria does not incorporate climate change targets, especially the Nigeria NDC, into the legal framework.

The investigation of this chapter also reveals the existing primary climate change-related laws made by the Nigerian Parliament. The following laws, such as the Associated Gas Reinjection Act of 1979 and the 2018 Regulation, touch on mitigation especially, gas flaring. These two laws clearly recognise and incorporate PP and PPP. These laws do not just reflect the PP and PPP; they also reflect one of the key items of the Nigeria NDC that is, phasing out gas flaring by 2030. However, the 1979 Act and the 2018 Regulation are restricted to emissions reduction in gas flaring and do not cover other sectors. Again, the 1979 Act was issued more than 50 years ago; it predates the UNFCCC, Kyoto Protocol, and the Paris Agreement. This means this Act was not deliberately enacted to achieve Nigeria's climate change obligation under the climate change regime. The Nigerian Parliament developed these laws primarily to regulate and manage the oil and gas industry.

This chapter also examines several laws that indirectly deal with climate change. These laws include NESREA and a couple of regulations. The dates of enactment of these laws show that they were existed long before the adoption of Nigeria NDC by the Nigerian government. This means these sets of laws were not primarily meant to achieve the climate change obligations. They were meant to solve an existing environmental issue that could help the climate change regime. However, NESREA and the few regulations could help reduce emissions in the waste industry sectors.

This chapter further investigates the role of the Executive arm of the government. The Executive arm of the government initiated some multi-sectoral policies, such as NPCC, NV:202020. The NPCC appears to have highlighted some of the solutions to adapt to climate

change and show the right direction the Nigerian government should channel its mitigation and adaptation activities. The NPCC also incorporates SD and public participation which intention is to attain a low carbon economy. Again, the NPCC, unlike the legislation enacted by the Parliament, NPCC was deliberately initiated to fight climate change. However, the NPCC did not contain specific target years in line with the Nigeria NDC to achieve the climate change objectives of Nigeria. In the case of the NV:202020, it contains some specific dates and target areas, but it has expired and may not form part of the major policy and plans to achieve Nigeria's climate change obligation in the coming years.

CHAPTER 5

THE ROLE OF ENERGY POLICIES AND PROGRAMMES IN ADDRESSING CLIMATE CHANGE IN NIGERIA

5.1 INTRODUCTION

The energy sector of Nigeria accounts for 28.2% of GHG emissions in Nigeria.⁸⁸⁷ This is more than waste (3.0%) and industrial processes and products (1.9%) combined.⁸⁸⁸ Emission relating to the energy sector is the traditional fossil fuel, particularly emission from gas flaring, on site generation plants, coal mining, road transportation (motor gasoline, diesel oil) etc.⁸⁸⁹ To cut down emissions of GHG, Article 4 (1) (c) of UNFCCC, Article 2 (1) (i) of Kyoto Protocol, and Article 10 (1) (2) Paris Agreement place an obligation on member nations to develop and promote Renewable Energy and Energy Efficiency. Similarly, Sustainable Development Goal (SDG) target 7.1 encourages members to ensure access to affordable, reliable, and modern energy services,⁸⁹⁰ target 7.2 encourages members to substantially increase the share of renewable energy (RE) mix,⁸⁹¹ and target 7.3 instructs members to improve energy efficiency.⁸⁹² At the domestic level, the Nigerian Nationally Determined Contribution (Nigeria NDC) clearly states that the Nigerian government will work towards off-grid solar PV of

⁸⁸⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 93.

⁸⁸⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 56.

⁸⁸⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1).

⁸⁸⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 62-81.

⁸⁹⁰ SDG Targets 7.1 UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2015].

⁸⁹¹ Ibid Target 7.2.

⁸⁹² Ibid Target 7.2.

13GW (13,000MW) by 2030, improve electricity grid, 2% per year energy efficiency (30% by 2030), and most importantly, end gas flaring by 2030.⁸⁹³

These Nigeria NDC energy-related targets are linked to SDG targets 7.1, 7.2 and 7.3 and the climate change energy-related obligations contained in Article 4(1) (c) of UNFCCC, Article 2 (1) (i) of Kyoto Protocol.⁸⁹⁴ The emphasis of the climate change regime, SDG 7 key targets, and the Nigeria NDC energy-related targets suggest that the Nigerian government recognises the need to deploy renewable energy to cut down the GHG emissions. This means that the Nigerian government must have policies and programmes that will drive the use of renewable energy and energy efficiency at the national level. Therefore, this chapter aims to identify and analyse Nigeria's energy-related policies and assess whether they incorporate the climate change energy obligation⁸⁹⁵ SDG 7⁸⁹⁶ and the Nigeria NDC energy-related targets⁸⁹⁷ (hereinafter referred to as Nigeria Renewable Energy Obligations -NREOs). The aim of this chapter is also to assess whether the existing energy programmes and projects will help the Nigerian government reduce GHG emissions in the energy sector and achieve the NREOs in the future.

This chapter is organised into three main segments. The first segment assesses the Nigerian energy-related policies, whether they incorporate the NREOs. This segment sets out the existing energy-related policies and how the NREOs is incorporated into the existing policies. This segment also analyses the gaps and weaknesses in the energy policies that restrict the promotion of renewable energy. The second segment shows the energy-related programmes

⁸⁹³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

⁸⁹⁴ See table X below. It shows the linkages between Climate change regime, SDG 7 key targets and Nigeria NDC energy related targets.

⁸⁹⁵ set out under Article 4(1) (c) of UNFCCC, Article 2 (1) (i) of Kyoto Protocol.

⁸⁹⁶ key specific targets 7.2 7.3 7.1.

⁸⁹⁷Such as working towards ending gas flaring by 2030; work towards off-grid solar PV of 13GW (13,000MW); efficient gas generators; 2% per year energy efficiency (30% by 2030); transport shift car to bus; improve electricity grid.

and projects the Nigerian government has initiated both in the past and present. This segment unveils the efforts of the Nigerian government to integrate RE into energy sector with the aim of reducing GHG emissions. This segment also points out the Nigerian government's harmful petrol subsidy, which may drastically affect RE development. The third segment of this chapter reveals the Nigerian government's effort to stop flaring associated gas, which is a major contributor to emissions of GHG. The effort of the Nigerian government and the Clean Development Mechanism contributions to reduce gas flaring and cut down emission of GHG are also examined.

Table 5.1: The linkages between climate change regime, SDG 7 key targets and Nigeria NDC energy targets.⁸⁹⁸

No.	Climate Change Regime	SDG 7	Nigeria NDC
1	Promote and develop Renewable Energy Article 4(1) (c) UNFCCC Article 10 (1) (2) Paris Agreement	SDG target 7.2 Increase renewable energy mix SDG target 7.1 Access to affordable, reliable and modern energy services	<ul style="list-style-type: none"> ▪ Work towards Off-grid solar PV of 13GW (13,000MW) ▪ Improve electricity grid
2	Energy Efficiency Article 2 (1) (i) Kyoto Protocol	Improve energy efficiency SDG target 7.3	<ul style="list-style-type: none"> ▪ 2% per year energy efficiency (30% by 2030)
3	Article 6 (8) (a) of the Paris Agreement	-	<ul style="list-style-type: none"> ▪ End gas flaring by 2030

⁸⁹⁸The table above shows the relationship between the climate change energy related obligation with key SDG 7 targets and the Nigeria NDC energy related targets. For instance, Article 4(1) (c) UNFCCC encourages member nations to promote and develop RE, this is similar to SDG target 7:2 which encourages parties to increase renewable energy mix. Article 4(1) (c) UNFCCC and SDG target 7:2 is linked to the Nigeria NDC target such as 'achieving off-grid solar PV of 13GW (13,000MW) by 2030.' The implication of this relationship is that the achievement of Article 4(1) (c) UNFCCC would lead to the achievement of SDG target 7:2 and the off grid solar PV target contained in the Nigeria NDC. Based on this relationship, this research in some cases just mention Article 4(1) (c) UNFCCC and leave out SDG 7:2 and other similar targets of Nigeria NDC in the course of assessing the energy policies of Nigeria since the intention is almost the same.

5.2 RENEWABLE ENERGY (RE)

A ‘renewable energy is any form of energy from solar, geophysical or biological sources that is replenished by natural processes at a rate that equals or exceeds its rate of use.’⁸⁹⁹ Any energy resource that cannot replenish through the natural process is not RE. In this sense, coal, oil, and natural gas do not fall under this definition⁹⁰⁰ because coal, oil, and natural gas are fossil fuels, and they can be diminished with extraction and consumption.⁹⁰¹ While hydro, biomass, wind, solar, and many more are termed RE⁹⁰², because they can replenish through natural processes.⁹⁰³ RE is said to be the future of sustainable development as well as the climate change regime.⁹⁰⁴ This fact is supported by the IPCC when it states that RE sources play a role in providing energy services in a sustainable manner and, in particular, in mitigating climate change.⁹⁰⁵ This is because RE technologies release much lower CO₂ than fossil fuels,⁹⁰⁶

⁸⁹⁹ W Moomaw and K Urama, 2011: Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA at 169, 178.

⁹⁰⁰ W Moomaw and K Urama, 2011: Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA 178.

⁹⁰¹ Energy Information Administration, ‘Renewable energy explained’ available at <https://www.eia.gov/energyexplained/renewable-sources/> > Accessed 12 March 2020 ; Z A Elum, and A S Momodu, ‘Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach (2017) 76 Renewable and Sustainable Energy Reviews, 72-80 at 75.

⁹⁰² The IPCC in 2011 put together a global team of experts and scientists to review six RE technologies in its fourth report, they are: bioenergy, solar energy, geothermal energy, hydropower, ocean energy and wind energy. See Intergovernmental Panel on Climate Change, Press Release Potential of Renewable Energy Outlined in Report by the Intergovernmental Panel on Climate Change Experts Underline Significant Future Role in Cutting Greenhouse Gas Emissions and Powering Sustainable Development Over 160 Scenarios on the Potential of six Renewable Energy Technologies Reviewed by Global Team of Technological Experts and Scientists 11th Session of Working Group III < <https://www.ipcc.ch/site/assets/uploads/2018/04/PRESS-RELEASE-Updated-version-Potential-of-Renewable-Energy-Outline.pdf> > Accessed 20th October 2019.

⁹⁰³ W Moomaw and K Urama, 2011: Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. at 169.

⁹⁰⁴ Z A Elum, and A S Momodu, ‘Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach (2017) 76 Renewable and Sustainable Energy Reviews, 72-80 at 72 75.

⁹⁰⁵ W Moomaw and K Urama, 2011: Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. at 167.

⁹⁰⁶ W Moomaw and K Urama, Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. at 167; Z A Elum, and A S Momodu, ‘Climate change mitigation and renewable energy for sustainable

making them ‘useful tools for addressing climate change.’⁹⁰⁷ The significance of the above statement is that RE development at the regional level to support national governments in the fight against climate change is a necessity.

However, the development of RE is not without criticism. For instance, biomass production has negative implications on food production since it involves lands and agricultural products such as sugar cane, sweet corns, soya etc.⁹⁰⁸ So, the contention is that using agricultural products for biomass would worsen the existing food crisis.⁹⁰⁹ Regarding solar energy, the major issue is the materials used in manufacturing solar thermal cells as they contain chemicals that are detrimental to human health.⁹¹⁰ Findings show that chemicals produced during solar panels could lead to cancer and respiratory diseases.⁹¹¹ In wind power generation, some of the associated effects are noise ‘blade throwing, obstruction of television or radio signals.’⁹¹² Apart from these, the large space of land occupied by wind farm projects creates concerns for the use of land for food production. In addition, wind power generation is harmful to birds. The National Wind Coordinating Committee (NWCC) report shows that several birds and bat death

development in Nigeria: A discourse approach (2017) 76 *Renewable and Sustainable Energy Reviews*, 72-80 at 72.

⁹⁰⁷ Ibid 174.

⁹⁰⁸ P K Oniemola, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ 2016 (60) (1) *Journal of African Law* 29-55 at 42.

⁹⁰⁹ Food and Agriculture Organization of the United Nations (FAO), *Impacts of Bioenergy on Food Security – guidance for assessment and response at national and Project levels* (2012) 1-68 available at <<http://www.fao.org/3/a-i2599e.pdf>> accessed 12 September 2019; F Rosillo-Calle, ‘Food versus fuel: toward a new paradigm—the need for a holistic approach.’ *ISRN Renewable Energy* 1- 16 at 7; Though, it was suggested that a purpose grown plants or weeds could solve these problems. See A S Aliyu and M M Usman, *Biofuel development in Nigeria: Prospect and challenges* (2017) 36 (1) *Journal of Advanced Research in Fluid Mechanics and Thermal Sciences*, 1-9 at 5-6; Paul Ekins, *Royal Commission on Environmental Pollution-Biomass as a renewable energy source* (2004) at 9.

⁹¹⁰ P K Oniemola, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ *Journal of African Law*, 2016 60(1) 29-55 at 42-47.

⁹¹¹ S Siddiqui, ‘The hidden impacts of solar India’, 2010 available at: <http://infochangeindia.org/environment/features/the-hidden-impacts-of-solar-india.html> > Accessed 8th November 2019.

⁹¹² AJ Bradbrook ‘Creating law for next generation energy technologies’ (2011) 2 *George Washington Journal of Energy & Environmental Law* 17 at 35; P K Oniemola, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ *Journal of African Law*, 2016 60(1) 29-55 at 42-47.

are directly linked to a collision with spinning wind turbines.⁹¹³ Aside from wind farm power generation, offshore wind power generation also has issues. Offshore wind turbines are capable of obstructing transportation at sea and may likely cause accidents.⁹¹⁴ Hydropower is not without flaws either; it could lead to flooding when the water stored in the dam is released all at once.⁹¹⁵ Also, the construction of dams could lead to displacement of villages as people may be evacuated for hydro dam projects.⁹¹⁶ These and many others are various concerns of RE development.⁹¹⁷

Despite the concerns of RE identified above, it is crucial to note that securing RE could reduce GHG emissions by creating a sustainable environment, which is one of the objectives of the climate change regime. So, policies at the domestic level improving RE are key to achieving the NREOs. As the IPCC rightly said, ‘increasing the share of RE in the energy mix will require policies to stimulate changes in the energy system.’⁹¹⁸ The next section discusses the Nigerian energy policies and how they incorporate the NREOs.

⁹¹³ National Wind Coordinating Collaborative, Wind Turbine Interactions with Birds, Bats, and their Habitats: A Summary of Research Results and Priority Questions 2010, < https://www1.eere.energy.gov/wind/pdfs/birds_and_bats_fact_sheet.pdf > accessed 4th October 2019

⁹¹⁴ P K Oniemola, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ *Journal of African Law*, 2016 60(1) 29-55 at 42-47.

⁹¹⁵ P K Oniemola, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ *Journal of African Law*, 2016 60(1) 29-55 at 44; A Usman and IP Ifabiyi “Socio-economic analysis of the operational impacts of Shiroro hydropower generation in the lowland areas of Middle River Niger” (2012) 2/4 *International Journal of Academic Research in Business and Social Science* 57 at 58.

⁹¹⁶ P K Oniemola, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ *Journal of African Law*, 2016 60(1) 29-55, 44.

⁹¹⁷ Pradhnya Tajne, ‘The Dark Side of Renewable Energy: Negative Impacts of Renewables on the Environment’ < <https://www.altenergymag.com/article/2015/08/the-dark-side-of-renewable-energy-negative-impacts-of-renewables-on-the-environment/20963> > Accessed 5th October 2019 ; P K Oniemola, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ *Journal of African Law*, 2016 60(1) 29-55, 44.

⁹¹⁸ W Moomaw and K Urama, 2011: Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. at 172-173; V Masson-Delmotte and T. Waterfield, IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (eds.)). In Press at 100.

5.3 KEY EXISTING POLICIES OF RE DEVELOPMENT IN NIGERIA

Nigeria is said to have huge RE potentials such as hydro, biomass, wind, and solar that can meet the country's energy demand.⁹¹⁹ Over the years, the Nigerian government has initiated some energy-related policies to develop RE. Some of the existing energy-related policies in Nigeria are: (1) The National Energy Policy (NEP) 2003⁹²⁰ (2) The National Renewable Energy and Energy Efficiency Policy (NREEEP) 2015⁹²¹ (3) Sustainable Energy for All Action Agenda (SE4ALL) 2016⁹²² (4) Renewable Energy Master Plan (REMP) 2005⁹²³ and (5) National Bio-fuel Policy (NBP) 2007.⁹²⁴

These existing RE policies are pre-Paris Agreement 2015, SDGs, and the Nigeria NDC. The year of publication of the policies shows that most of them were formulated before 2015 except the SE4ALL 2016, and the NREEEP 2015. The SE4ALL publication date is 2016. However, the SE4ALL agenda was on since 2012.⁹²⁵ This means 2016 is the year the Nigerian

⁹¹⁹ M Shaaban and J Petinrin, 'Renewable energy potentials in Nigeria: Meeting rural energy needs (2014) 29 Renewable and Sustainable Energy Reviews, 72-84 at 75-78; S O Oyedepo, 'Towards achieving energy for sustainable development in Nigeria (2014) 34 Renewable and sustainable energy reviews, 255-272 at 263 -265; S A Aliyu and I K Adam, 'Current status and prospects of renewable energy in Nigeria (2015) 48 Renewable and sustainable energy reviews, 336-346 at 339-349.

⁹²⁰ Federal Republic of Nigeria National Energy Policy (Energy Commission of Nigeria 2003) < http://rea.gov.ng/wp-content/uploads/2017/09/National_Energy_Policy_Nigeria.pdf > accessed 7th September 2019.

⁹²¹ National Renewable Energy and Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria < <http://admin.theiguides.org/Media/Documents/NREEE%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

⁹²² Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

⁹²³ Renewable Energy Master Plan Final Draft Report (2005) < <http://icednigeria.org/backup/workspace/uploads/nov.-2005.pdf> > accessed 10th January 2019.

⁹²⁴ Federal Republic of Nigeria Official Gazette of the Nigerian Bio-fuel Policy and Incentives > <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/1517.pdf> > accessed 1st January 2019

⁹²⁵ Sustainable Energy for All Action, History available at < [History | Sustainable Energy for All \(seforall.org\)](https://www.seforall.org/history) > Accessed 27th February 2021.

government adopted the SE4ALL agenda, not when the agenda started. This point is further elaborated in section 5.3.9

Similarly, the NREEEP 2015 was the year of publication, not when the policy was drafted. In fact, the policy was published on the 20th April 2015, which is earlier than the Paris Agreement 2015.⁹²⁶ This means both the SE4ALL and the NREEEP, including NEP, REMP, and NBP, were not specifically formulated to incorporate the NREOs, especially the SDGs and the Nigeria NDC commitments under the Paris Agreement.

However, the analyses of the policies below show that these existing policies cover the NREOs. Therefore, sections 5.3.1 -5.3.9 assess and analyse the RE policies against the NREOs, particularly the promotion and development of RE,⁹²⁷ increase in renewable energy mix,⁹²⁸ and Nigeria NDC energy target.⁹²⁹ Section 5.4 briefly assesses energy efficiency, while section 5.5 analyses the gaps of the RE policies.

5.3.1 NATIONAL ENERGY POLICY (NEP)

The existing policies before 2003 are based on separate energy sub-sectors such as electricity, oil and gas and solid minerals.⁹³⁰ There is a need for a coordinated and comprehensive energy policy in Nigeria.⁹³¹ This and other reasons led the government to review the previous energy

⁹²⁶ The Paris Agreement was adopted on the 12th December 2015.

⁹²⁷ (Article 4(1) (c) UNFCCC Article 10 (1) (2) Paris Agreement, SDG target 7.1).

⁹²⁸ (SDG target 7.2).

⁹²⁹ ⁹²⁹ (Work towards off-grid solar PV of 13GW (13,000MW) and improve electricity grid).

⁹³⁰ Federal Republic of Nigeria National Energy Policy (Energy Commission of Nigeria 2003) 2 < http://rea.gov.ng/wp-content/uploads/2017/09/National_Energy_Policy_Nigeria.pdf > accessed 7th September 2019.

⁹³¹ Ibid 2.

policies and develop the National Energy Policy (NEP) in 2003.⁹³² From 2003 to date, NEP had gone through two major reviews, first 2013 and recently, 2018.⁹³³ NEP as a policy is meant to ‘promote the harnessing of all the viable energy resources so as to have an optimal energy mix.’⁹³⁴ The overall objective of the policy is ‘[t]o ensure the development of the nation's energy resources, with diversified energy resources option, for the achievement of national energy security and an efficient energy delivery system with an optimal energy resource mix.’⁹³⁵ The NEP is set to develop energy sources such as oil, gas, coal, tar sands, solar, hydro, biofuels and other renewable energy resources.⁹³⁶ Not only that, NEP contains specific objectives and strategies for each of the energy sources listed above. For instance, the policy highlighted hydropower as one of the cheapest and cleanest sources of electricity, and the plan is to harness hydropower in the country for electricity generation fully.⁹³⁷ A similar plan was highlighted for natural gas,⁹³⁸ solar,⁹³⁹ biomass,⁹⁴⁰ wind,⁹⁴¹ and hydrogen.⁹⁴²

⁹³²Federal Republic of Nigeria National Energy Policy (Energy Commission of Nigeria 2003) < http://rea.gov.ng/wp-content/uploads/2017/09/National_Energy_Policy_Nigeria.pdf > accessed 7th September 2019.

⁹³³ Federal Republic of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission of Nigeria 2018) < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019.

⁹³⁴ Ibid See the forward.

⁹³⁵Ibid 8; N Nelson, ‘National energy policy and gas flaring in Nigeria. gas, (2015) 5(14). Journal of Environment and Earth Science at 58-64 at 60.

⁹³⁶ Federal Republic of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) at 10-34 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019.

⁹³⁷Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) 26 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019 .

⁹³⁸ Ibid 12.

⁹³⁹ Ibid 29.

⁹⁴⁰ Ibid 36-40.

⁹⁴¹ Ibid 32.

⁹⁴² Ibid 33.

5.3.2 ASSESSMENT OF NEP AGAINST THE NREOS

There are key provisions of NEP which are in line with Article 4(1) (c) of the UNFCCC. For instance, NEP proposes to develop renewable energy sources.⁹⁴³ This is what Article 4(1) (c) UNFCCC is all about, which encourages member states to promote and develop renewable energy. NEP also plans to ‘guarantee adequate, reliable and sustainable supply of energy.’⁹⁴⁴ This provision aligns with SDG target 7.1, which encourages member states to embark on ‘reliable and modern energy services by 2030.’⁹⁴⁵ NEP talks about the development of solar energy.⁹⁴⁶ The development of solar energy is one of the specific targets highlighted by the Nigeria NDC.⁹⁴⁷ The Nigeria NDC specifically aims to improve off-grid solar by 2030.⁹⁴⁸ In this sense, it can be argued that NEP generally touches on the Nigeria NDC, especially, solar energy improvement target.

However, NEP focuses on energy mix,⁹⁴⁹ which is not exactly the position of SDG 7. SDG target 7.2 encourages members to increase renewable energy mix. In contrast, NEP’s emphasis is on energy mix as the overall objective states that NEP is ‘to ensure the development of the nation's energy resources.’⁹⁵⁰ That is why the policy contains so many energy sources, including unclean energy sources (e.g., coal) to be part of the national development. For instance, the NEP clearly states that one of its objectives is to ‘promote effective utilization of

⁹⁴³ For instance, oil, gas, coal, tar sands, solar, hydro, biofuels, and other renewable energy resource. Ibid 10- 34.

⁹⁴⁴ Ibid 9.

⁹⁴⁵ SDG targets 7.1.

⁹⁴⁶ Ibid 29.

⁹⁴⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

⁹⁴⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

⁹⁴⁹ Where the share of energy cut across both traditional and renewable energy sources such as coal, natural gas, hydro, solar PV, wind etc. see International Energy Agency, Data and Statistics available at < <https://www.iea.org/data-and-statistics?country=WORLD&fuel=Energy%20supply&indicator=Coal%20production%20by%20type> > Accessed 12th April 2020.

⁹⁵⁰ Federal Republic of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission of Nigeria 2018) 8 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019.

coal for complementing the nation's energy needs and as industrial feedstock.⁹⁵¹ The specific aim is first 'to increase coal's contribution by 30% to the national energy mix by 2030'⁹⁵², second is to export coal.⁹⁵³ Based on this, the Federal government of Nigeria embarked on a plan to fund coal projects in the country.⁹⁵⁴ In fact, the Federal government approved 36 licenses for the extraction of coal.⁹⁵⁵

It is, however, questionable as to whether the production of coal is clean and sustainable. One of the energy sources identified by the IPCC which increase CO₂ is coal production.⁹⁵⁶ According to the IPCC, coal methane is produced during coal mining.⁹⁵⁷ Many countries are amending their energy policies and working towards phasing out coal as a source of energy. The United Kingdom (UK) closed its various coal-fired power stations, and only five such stations remain.⁹⁵⁸ It was reported that the UK went on a six day streak without burning coal for electricity generation.⁹⁵⁹ The UK government is looking forward to phasing out coal-fired generation by 2025.⁹⁶⁰ Even China, the world's largest GHG emitter, is switching from coal to

⁹⁵¹ Ibid 19.

⁹⁵² Ibid 18.

⁹⁵³ Ibid 18.

⁹⁵⁴ A Adoyi, 'FG partners ADB on coal power generation' (2017) Daily Post (25-4-2017), at <<http://dailypost.ng/2017/04/25/fg-partners-adb-coal-power-generation/>> Accessed 2nd November 2019.

⁹⁵⁵ Daily Trust Newspaper, Nigeria: Investigation - Despite 36 Mining Licences, 10,000MW Coal for Power Capacity Idle (2019) available at <[Nigeria: Investigation - Despite 36 Mining Licences, 10,000MW Coal for Power Capacity Idle - allAfrica.com](http://allafrica.com/stories/201904250001.html)> accessed.

⁹⁵⁶ W Moomaw and K Urama, 2011: Introduction. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation 2011 (eds), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. at 169; V Masson-Delmotte and T Waterfield, IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (eds.)). In Press. 15

⁹⁵⁷ O. Edenhofer and von Stechow, IPCC, 2011: Summary for Policymakers. In: IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [(eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. available > <https://www.ipcc.ch/site/assets/uploads/2018/03/Summary-for-Policymakers-1.pdf> > Accessed 10th September 2019 ; P Taylor an ecological approach to international law, Responding to challenges of climate change (1998) 13; C Wold et al Climate Change and the Law (2009) 5-6.

⁹⁵⁸ Jilian Abrose 'UK to be left with five coal power stations after latest closure' The Guardian 13th June 2019 < <https://www.theguardian.com/environment/2019/jun/13/mild-but-windy-winter-was-greenest-ever-for-uk-energy-use> > access 4 December 2019.

⁹⁵⁹ Peter Dockrill, 'The UK Has Gone 6 Days Without Burning Coal Now, And Guess What, The World Didn't End' (science Alert) may 2019 < <https://www.sciencealert.com/the-uk-is-in-the-midst-of-a-record-breaking-run-without-burning-coal-right-now> > accessed 2nd November 2019.

⁹⁶⁰ Ibid.

RE and natural gas.⁹⁶¹ In India, a carbon tax is levied on coal production to promote RE.⁹⁶² This suggests that the production of coal recognised by NEP is contradictory to SDG target 7.2 and Article 4(1) (c) UNFCCC. In addition, the production of coal is also against the objective of NEP. One of NEP's objectives is '[t]o guarantee adequate, reliable and sustainable supply of energy at appropriate costs and in an *environmentally friendly manner...*' [Emphasis added]⁹⁶³ The production of coal is not environmentally friendly and is against this objective. Though, experts suggest that the inclusion of carbon capture and storage (CCS) will offset emissions from coal-fired power plants.⁹⁶⁴ However, many countries are limiting the use of coal as a source of energy.⁹⁶⁵

Furthermore, NEP does not contain any time limit for achieving some of its RE targets outlined in the policy except coal.⁹⁶⁶ Aside from coal, there is no specific time limit for other RE targets listed in the document. If NEP does not have a specific time frame to achieve the targets, the

⁹⁶¹ K Dong and X Dong, 2018. CO2 emissions, natural gas and renewables, economic growth: assessing the evidence from China (2018) *Science of the Total Environment*, 640,293-302 at 294; B Xu and B Lin, 'Can expanding natural gas consumption reduce China's CO2 emissions?' (2019) *Energy Economics*, 81, pp.393-407 at 393; K Dong and G Hochman, 'Do natural gas and renewable energy consumption lead to less CO2 emission? Empirical evidence from a panel of BRICS countries 2017 *Energy*, 141, 1466-1478 at 1466 – 1468.

⁹⁶²S Alam, 'Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 11 – 12.

⁹⁶³ Federal Republic of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission of Nigeria 2018) 8 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > Accessed 1 November 2019.

⁹⁶⁴ R Cervigni and M Henrion, *Low-Carbon Development: Opportunities for Nigeria* (eds., 2013 The World Bank) 88-89.

⁹⁶⁵ Greenpeace International , *A Coal Phase-Out Pathway for 1.5°C* (Greenpeace 2018) available at < <https://storage.googleapis.com/planet4-international-stateless/2018/10/7df76ee5-coalpathway-final.pdf> > Accessed 13th April 2020 ; The World Bank, *Managing Coal Mine Closure : Achieving a Just Transition for All* (English) available at < <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/484541544643269894/managing-coal-mine-closure-achieving-a-just-transition-for-all> > Accessed 13th 2020.

⁹⁶⁶ Ibid 44; It is important to note that there is a National Energy Master plan which was issued by the Energy Commission of Nigeria. This National Energy Master plan was meant to implement and achieve the goals and strategies of NEP. It highlighted 2007-2030, a period of 24 years to achieve the goals of NEP by converting the strategies to actionable programmes, activities and projects.⁹⁶⁶ It is not clear if the National Energy Master plan is implemented neither see Federal Republic Of Nigeria, National Energy Master plan (Energy Commission of Nigeria 2014 ,< [http://www.energy.gov.ng/Energy_Policies_Plan/Draft%20\(Reviewed\)%20NEMP%20-%202014.pdf](http://www.energy.gov.ng/Energy_Policies_Plan/Draft%20(Reviewed)%20NEMP%20-%202014.pdf)> accessed 10th October 2019 .

implication is that agencies responsible for the implementation of NEP may not see the urgency to implement the policy, which may affect the timely realisation of RE in Nigeria.

5.3.3 NATIONAL RENEWABLE ENERGY AND ENERGY EFFICIENCY POLICY (NREEEP)

NREEEP 2015 recognises ‘that poverty mitigation and environmental protection are hindered by the continued predominance and inefficient use of oil and natural gas in meeting our energy needs.’⁹⁶⁷ The intention is to ‘set out a framework of action to address Nigeria’s challenge of inclusive access to modern and clean energy resources, improved energy security and climate objectives.’⁹⁶⁸ Hence, some of the major objectives of NREEEP are to increase energy resource mix, ensure an ‘affordable, equitable and sustainable supply of renewable energy at cost-reflective and appropriate costs,’ and accelerate the acquisition of technology and managerial experts of renewable energy.⁹⁶⁹

NREEEP intends to encourage and make it easy for local and foreign investment of RE in Nigeria. NREEEP states explicitly that the government will assist investors in acquiring land, waiving licenses to improve RE in Nigeria.⁹⁷⁰ In addition to this, NREEEP envisages financial incentives for foreign investors such as ‘provision of capital grants, tax holidays and exemptions’ for RE projects.⁹⁷¹ Most importantly, NREEEP clearly sets out deadlines and short-, medium- and long-term targets for the achievement of certain goals set out on the table below.

⁹⁶⁷ National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria <
<http://admin.theiguides.org/Media/Documents/NREEE%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019 at v..

⁹⁶⁸ Ibid xi

⁹⁶⁹ Ibid 9.

⁹⁷⁰ Ibid 24.

⁹⁷¹ Ibid 4.

Table 5.2: Summary of Renewable Electricity Targets of NREEEP⁹⁷²

S/N	Resources	2012	Short term 2015	Medium term 2020	Long term 2030
1	Hydro (LHP)	1,938.00	2,121.00	4,549.00	4,626.96
2	Hydro (SHP)	60.18	140.00	1,607.22	8,173.81
3	Solar	15	117.00	1,343.17	6,830.97
4	Biomass	-	55.00	631.41	3,211.14
5	Wind	10	50.00	57.40	291.92
6	All Renewables plus LHP	1,985.18	2,438.00	8,188.20	23,134.80

5.3.4 ASSESSMENT OF THE NREEEP AGAINST NREOS

NREEEP’s objective is to increase energy resource mix, ensure an ‘affordable, equitable and sustainable supply of renewable energy at cost-reflective and appropriate costs,’⁹⁷³ This clearly reflects Article 4(1) (c) UNFCCC, both SDG targets 7.1 and 7.2, which are to access affordable, reliable, and modern energy services, and increase RE mix. Comparing NREEEP with the Nigeria NDC, NREEEP appears to have incorporated one specific Nigeria NDC target area, such as work towards off-grid solar PV of 13,000MW by 2030.⁹⁷⁴ Though, the specific capacity of solar PV highlighted by NREEEP to be attained in 2030 is not the same as the Nigeria NDC target. For instance, the solar target for the NREEEP by 2030 is 6,830,⁹⁷ while that of the Nigeria NDC is 13,0000 MW. This means NREEEP solar target is far less than the Nigeria NDC solar target. Nevertheless, NREEEP contains useful provisions that will help the Nigerian government achieve some of the targets contained in the Nigeria NDC, Article 4(1) (c)

⁹⁷²Ibid 36.

⁹⁷³Ibid 9.

⁹⁷⁴ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 9.

UNFCCC, SDG targets 7.1 and 7.2. Again, the NREEEP implementation period opens till 2030, which fits into the NREOs.

5.3.5 THE NATIONAL BIO-FUEL POLICY (NBP)

The instance that led to the draft of NBP was a presidential directive issued to the Nigeria National Petroleum Corporation to explore an automated biomass programme in 2005.⁹⁷⁵ The directive aimed to gradually reduce Nigeria's dependence on imported gasoline (fossil fuel) and develop Nigeria's domestic biofuel industry with renewables such as industrial waste, biodegradable components, municipal waste, trees, crops, and plants that are environmentally friendly.⁹⁷⁶ Against this backdrop, the NBP was drafted in July 2007, which is awaiting government approval.⁹⁷⁷ The planned programme has two phases; phase 1 is between 5-10 years, which is to achieve 'the blending of up to 10% of fuel ethanol with gasoline.'⁹⁷⁸ The strategy to achieve a 10% blend of biofuel in this first phase is to allow the importation of fuel ethanol until the country capacity is developed to build bio fuel feedstock and plants.⁹⁷⁹ While phase 2 is the proper integration stage, where proper installation of biofuel plantations and distilleries are achieved. This phase aims to achieve 100% domestic production of biofuels consumption in Nigeria by 2020.⁹⁸⁰ NBP intends to 'integrate the agricultural sector of the economy with the downstream petroleum sector.'⁹⁸¹ What this means is that the development

⁹⁷⁵ Nigeria National Petroleum Corporation < <http://www.nnpcgroup.com/NNPC-Business/Midstream-Ventures/Pages/Renewable-Energy.aspx> > accessed 11th October 2019.

⁹⁷⁶ Ibid 7 See the policy objectives.

⁹⁷⁷ M Nachmany and T Townshend, Climate Change Legislation in Nigeria an Excerpt from the Global Climate Legislation Study A Review of Climate Change Legislation in 66 Countries (Fourth Edition 2014) 423

⁹⁷⁸ Federal Republic Of Nigeria, National Energy Master plan (Energy Commission of Nigeria 2014 at 6 , < [http://www.energy.gov.ng/Energy_Policies_Plan/Draft%20\(Reviewed\)%20NEMP%20-%202014.pdf](http://www.energy.gov.ng/Energy_Policies_Plan/Draft%20(Reviewed)%20NEMP%20-%202014.pdf) > accessed 10th October 2019.

⁹⁷⁹ Ibid.

⁹⁸⁰ Ibid.

⁹⁸¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC)122.

of Nigeria's biofuel industry will utilize agricultural products that will support the Nigerian automotive fossil-based vision.⁹⁸² In this sense, the programme will link the agricultural sector to the energy sector, creating job opportunities and employment.⁹⁸³

5.3.6 ASSESSMENT OF NBP AGAINST NREOS

The IPCC did emphasise bioenergy to be developed by member states to the UNFCCC as a renewable energy source to replace fossil fuel power generation.⁹⁸⁴ However, the Nigeria NDC did not mention biofuel as one of the energy sources to be developed before 2030. This means the biofuel policy is outside the ambit of the Nigeria NDC, but within the ambit of the recommendations of the IPCC. Not only is biofuel development in line with IPCC recommendation but it is also in line with SDG target 7.2 and Article 4(1) (c) UNFCCC, which is about the development and improvement of RE by member states.⁹⁸⁵

5.3.7 RENEWABLE ENERGY MASTER PLAN (REMP)

In the case of REMP, it was triggered by the principle and values of the National Environmental Policy 2003 and the Millennium Development Goals with the aim of reducing poverty and emission reduction.⁹⁸⁶ The United Nations Development Programme funded this REMP policy.⁹⁸⁷ According to REMP, the key objective 'is to articulate a national vision, targets and a road map for addressing key development challenges facing Nigeria through the accelerated

⁹⁸² Federal Republic of Nigeria Official Gazette of the Nigerian Bio-fuel Policy and Incentives ><http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/1517.pdf> > accessed 1st January 2019

⁹⁸³ Ibid 7 See the policy objectives.

⁹⁸⁴ Intergovernmental Panel on Climate Change, Press Release Potential of Renewable Energy Outlined in Report by the Intergovernmental Panel on Climate Change Experts Underline Significant Future Role in Cutting Greenhouse Gas Emissions and Powering Sustainable Development Over 160 Scenarios on the Potential of six Renewable Energy Technologies Reviewed by Global Team of Technological Experts and Scientists 11th Session of Working Group III (2011) < <https://www.ipcc.ch/site/assets/uploads/2018/04/PRESS-RELEASE-Updated-version-Potential-of-Renewable-Energy-Outline.pdf> > Accessed 20th October 2019.

⁹⁸⁵ Article 4(1) (c) UNFCCC, Article 2 (1) (i) Kyoto Protocol.

⁹⁸⁶ Renewable Energy Master Plan Final Draft Report (2005) 9 see the Executive summary < <http://iceednigeria.org/backup/workspace/uploads/nov.-2005.pdf> > accessed 10th January 2019.

⁹⁸⁷ Ibid.

development and exploitation of renewable energy.⁹⁸⁸ REMP highlighted key renewable sources of Nigeria: large and small hydroelectric power resources, solar energy, biomass, and wind.⁹⁸⁹

5.3.8 ASSESSMENT OF REMP AGAINST NREOS

Specific targets recognised in REMP are to increase ‘electricity supply, from all sources (conventional and renewable) in short (2007), medium (2015) and long term (2025) is estimated to be 7000MW, 14000MW and 29,000MW, respectively.’⁹⁹⁰ The main purpose is to accelerate RE's exploitation, which will make renewable electricity account for 10% of Nigeria's energy consumption in 2025.⁹⁹¹ REMP's agenda to push for renewables appears in line with Article 4(1) (c) UNFCCC, SDG target 7.2, and the Nigeria NDC pledges relating to RE. However, REMP remains a draft; it is yet to be adopted by the Nigerian government after 14 years of existence.⁹⁹² However, REMP as a policy document was mentioned and highlighted by the Biennial Report⁹⁹³ and few academics⁹⁹⁴ as part of the energy policies in Nigeria. Since it was not approved, Ley, in his findings, presumed that the National Renewable Energy and Energy Efficiency Policy would replace REMP in the future.⁹⁹⁵ It is important to note that REMP 2005 was reviewed in 2012,⁹⁹⁶ but there is no information available about this review.

⁹⁸⁸ Ibid 11.

⁹⁸⁹ Ibid 11.

⁹⁹⁰ Ibid 9.

⁹⁹¹ Ibid.

⁹⁹² Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 125.

⁹⁹³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 125.

⁹⁹⁴ O O Ajayi, ‘Nigeria's energy policy: Inferences, analysis and legal ethics toward RE development. (2013) Energy Policy.61-67 at 62; A Charles, ‘How is 100% renewable energy possible for Nigeria. (2014) Global Energy Network Institute (GENI), California. 17.

⁹⁹⁵ K Ley and A Ghatikar, 2015. ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 96.

⁹⁹⁶ Ibid.

5.3.9 THE SUSTAINABLE ENERGY FOR ALL ACTION AGENDA (SE4ALL)

The SE4ALL agenda, a global agenda initiated in 2012, has three objectives: universal access to modern energy services, doubling the global rate of improvement in energy efficiency, and doubling the share of renewable energy in the global energy mix by 2030 compared to 2010.⁹⁹⁷ This global objective is aligned with SDG targets 7.1, 7.2, and 7.3, which are keen on increasing the global energy mix and doubling the global rate of energy efficiency.⁹⁹⁸ These objectives are signposts requiring national governments to set quantitative objectives around the SE4ALL global objective, which will drive access in the world energy. The Nigerian government adopted the SE4ALL through the Inter-Ministerial Committee on Renewable Energy and Energy Efficiency and approved by the National Council on Power in 2016.⁹⁹⁹

Specific objectives are to ensure ‘increase electricity access from the current level of 40% in 2015 to 75% by 2020. By the end of 2015, efficient lighting (at least 5 times more efficient than incandescent lamps) will be used by 20% of the households, 40% by 2020 and almost 100% by 2030.¹⁰⁰⁰ It is stated on the SEA4ALL document that ‘the Federal government of Nigeria has shown strong commitment in accelerating Nigeria's SE4All Action Plan, and integrating the same within the ... NV202020.’¹⁰⁰¹ Chapter 4 already pointed out that the NV202020 has expired, and as such, incorporating SE4ALL into NV202020 makes no sense. Instead, it should be incorporated into the National Renewable Energy and Energy Efficiency Policy (NREEEP) which implementation period opens till 2030.

⁹⁹⁷ Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy and Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) 10.

⁹⁹⁸ SDG Targets 7.2 and 7.3.

⁹⁹⁹ Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy and Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) 10.

¹⁰⁰⁰ Ibid 28-30.

¹⁰⁰¹ Ibid 17.

Note that aside from the above discussed energy policies, some other energy-related policies such as the Renewable Electricity Policy Guidelines (REPG) 2006,¹⁰⁰² the validity period is 2007-2016; and Renewable Electricity Action Programme (REAP) 2006,¹⁰⁰³ the validity period is 2007-2016. Both the REAP and REPG have expired and will not form part of policies that will drive RE in Nigeria.

5.4 KEY EXISTING POLICY ON ENERGY EFFICIENCY IN NIGERIA

The key document that prioritizes Energy Efficiency is the National Renewable Energy and Energy Efficiency Policy (NREEEP) which was discussed under the RE section. NREEEP provides for energy conservation and plan of financing Energy Efficiency (EE).¹⁰⁰⁴ NREEEP sets target for EE. According to NREEEP, the EE target aims to ‘attain replacement of 40% (by 2020) and (by 2030) of old and inefficient appliances in Nigeria with energy efficient appliances.’¹⁰⁰⁵ This clearly encapsulates SDG target 7.3, the global obligation of doubling the rate of energy efficiency.¹⁰⁰⁶ Also, NREEEP reflects one of the targets of the Nigeria NDC, particularly ‘the 2% per year energy efficiency (30% by 2030).’¹⁰⁰⁷

¹⁰⁰² REPG 2006 main objective is to ‘expand electricity generating capacity to meet national economic and social development goals.’ See Federal Ministry of Power and Steel, Renewable Electricity Policy Guidelines December 2006, 13.

¹⁰⁰³ While REAP 2006 is to provide the framework to implement the REPG. The only difference between REPG and REAP is that REAP set out 2007-2016 as a target date to achieve a 5% contribution to total electricity generating capacity. See Federal Ministry of Power and Steel, Renewable Electricity Action Program (REAP) December 2006 at 6.

¹⁰⁰⁴ National Renewable Energy and Energy Efficiency Policy (NREEEP) Approved by FEC for the Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria 25-29 ≤ <http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

¹⁰⁰⁵ National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria 37 ≤ <http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

¹⁰⁰⁶SDG Target 7.3.

¹⁰⁰⁷ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 9.

Though, this research is aware that the National Energy Policy (NEP) also generally touches on EE. For instance, chapter 9 of the policy provides for EE and conservation.¹⁰⁰⁸ However, NREEEP as a policy is more detailed with both RE and EE, and its target date and year can be aligned with key SDG 7 targets and the Nigeria NDC. For clarity, the key energy policies discussed above, their objectives, and their current status are presented in Table 5.3.

Table 5.3: Detailed information on mitigation policies in Nigeria¹⁰⁰⁹

Name of policy	Main objective	Gases	Type	Status	Implementation entity	GHG reduction
National Climate Change Policy Response and Strategy (NCCPRS) 2012	Implement mitigation to promote low carbon sustainable high economic growth	CO ₂ , CH ₄ , N ₂ O	Multi-sectoral	Adopted in 2012	Federal Executive Council	NA
The Nigerian National Biofuels Policy 2007	To reduce dependence on imported gasoline	CO ₂ , CH ₄	Energy	Ongoing	NNPC	NA
National Energy Policy (NEP) 2018	Ensure development of the nation's energy resources	CO ₂	Energy	Draft	The Energy Commission of Nigeria	NA
The Sustainable Energy for All (SE4ALL) Action Agenda 2016	doubling the global rate of improvement in energy efficiency and doubling the share of renewable energy in global energy mix by 2030 compared to 2010	CO ₂	Energy	2012 - 2030	Interministerial committee on Renewable energy and energy efficiency (ICREEE) National Council on power	NA
National Renewable Energy and Energy Efficiency Policy (NREEEP) 2015	To address Nigerian's challenge of inclusive access to modern and clean energy resources	CO ₂	Energy	Approved	Federal Ministry of Power and Energy Commission	NA
The Renewable Energy Master Plan (REMP) 2005	To articulate a roadmap for national development through the accelerated development and exploitation of renewable energy.	CO ₂ , CH ₄	Energy	2012 - yet to be approved	Energy Commission of Nigeria	NA

¹⁰⁰⁸ Ibid 58.

¹⁰⁰⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 121-125.

5.5 ANALYSIS AND KEY FINDINGS OF THE ENERGY POLICIES

The existing energy-related policies discussed above, starting from the National Energy Policy (NEP) to National Renewable Energy and Energy Efficiency Policy (NREEEP), the Nigerian National Biofuels Policy (NBP), Renewable Energy Master Plan (REMP), including the SEE4ALL, clearly incorporate Article 4(1) (c) UNFCCC, key SDG targets 7:1, 7:2, 7:3 and the Nigeria NDC energy-related targets. However, there are some gaps noticed in the energy policies discussed above. Some of the gaps are first; the energy policies did not cover all the GHGs required by the climate change regime (as shown in Table 5.3). Second, there are too many energy policies with different targets regarding RE development. Third, the policies are not implemented nor binding since most of them are issued by government ministries and departments. These points are elaborated below.

5.5.1 LACK OF LEGISLATIVE BACKING AND IMPLEMENTATION

Most of the RE policies such as the NEP, NREEEP, REMP, and NBP were not implemented. For instance, before NEP was reviewed in 2018, its strategies and targets in 2003 were ‘to pursue the integration of solar energy into the nation's energy mix.’¹⁰¹⁰ This target was not achieved.¹⁰¹¹ The NBP was initiated in 2007; to date, the Nigerian government has not approved it.¹⁰¹² REMP was drafted in 2003; it was never adopted, nor was it implemented.¹⁰¹³ The REMP targeted to increase electricity supply both RE and conventional to 7000MW in

¹⁰¹⁰ See Federal Republic of Nigeria National Energy Policy (Energy Commission of Nigeria 2003) 29 < http://rea.gov.ng/wp-content/uploads/2017/09/National_Energy_Policy_Nigeria.pdf > Accessed 7th September 2019.

¹⁰¹¹ See section 5.6.1 Large Scale RE Power Projects.

¹⁰¹² See section 5.3.5 the National Bio-Fuel Policy.

¹⁰¹³ Z A Elum and V Mjimba, ‘Potential and challenges of renewable energy development in promoting a green economy in Nigeria (2020) 12 (2) Africa Review,172-191 at 181.

2007 and 14000MW in 2015, respectively.¹⁰¹⁴ This is 2021, none of the goals enshrined in REMP was realised as the Nigerian's Electricity Regulatory Commission 2021 report states that Nigeria daily peak electricity generation is just 5,316MW.¹⁰¹⁵ This means the goals set out in the NBP, REMP, and NEP policies were never implemented.

This thesis argues that achieving climate change goals at the domestic level requires a commitment and implementation. In addition to implementation, there is a need to establish a legally binding instrument that will guide implementation agencies to achieve ambitious targets. For instance, the 2009 EU Renewable Energy Directive¹⁰¹⁶ is a binding legislative instrument.¹⁰¹⁷ Article 3 of the Directive sets out to achieve 20% RE by 2020. This binding target triggered the National Renewable Energy Action Plan for the UK 2011, aiming to achieve a 15% share of energy from RE.¹⁰¹⁸ Also, in Canada, the Federal Sustainable Development Act 2008 provides for the Federal Sustainable Development Strategy. The Act requires the ministry of environment to present a new strategy every 3 years by reflecting new priorities.¹⁰¹⁹ The latest Canadian Fourth Federal Sustainable Development Strategy, which reflects about 13 SDGs to be implemented from 2019 to 2022, was born out of the binding legislation.

In contrast, the NEP and REMP were initiated by the Energy Commission (ECN) of Nigeria, and the ECN and other participants determined the targets and year contained in these policies

¹⁰¹⁴ Ibid 9.

¹⁰¹⁵ Quarterly Report, Second Quarter 2020 'Nigerian Electricity Regulatory Commission (NERC) 1-80 at 24.

¹⁰¹⁶ Council Regulation (EC) 28/2009 the promotion of the use of energy from renewable sources [2009] OJ L 140 /5.6.

¹⁰¹⁷ Take note that a recast Renewable Energy Directive 2018/ 2001/ EU enters into force in December 2018. This recast Directive 2018 repealed the 2009 Directive and set a new binding target from 1 July 2021. From 1 July 2021 to 2030, the new binding target Renewable energy target will be at least 32%. See Council Regulation (EC) 2018/2001 the promotion of the use of energy from renewable sources (Text with EEA relevance.) [2018] OJ L 328, 21.12.2018.

¹⁰¹⁸ Department of Climate Change and Climate Change, National Renewable Energy Action Plan for the United Kingdom (2011).

¹⁰¹⁹ A Federal Sustainable Development Strategy for Canada 2019 to 2022 at 1 http://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf > Accessed 12 March 2020.

during the draft.¹⁰²⁰ NREEEP was drafted by the Federal Ministry of Power (FMP), whatever targets of RE were set out by the (FMP) and other agencies that were part of the draft.¹⁰²¹ All energy policies and targets mentioned above were formulated by MDAs¹⁰²² and they are not binding. If they are not binding, the government might not give full commitment to implement whatever target contained in the policies.

As already noted above, NEP was reviewed in 2018, its strategies and targets in 2003 were never implemented. This is also the case with REMP, NEP, and NBP. But the agencies that supervised the draft of these policies kept reviewing them without commitment on the federal government's side to implement them. So long as the energy policies remain not binding,¹⁰²³ and a lack of commitment to implement the policies, the achievement of RE goals contained in the policies as well as the Nigeria NDC remains uncertain.

5.5.2 MULTIPLICITY OF POLICIES AND TARGETS

The Nigerian government has too many RE policies.¹⁰²⁴ Not only that but the emission reduction targets, and economic growth plans enshrined in the energy policies are different. For instance, NREEEP and REMP, these two policies are targeted to increase renewable energy as their titles clearly suggest - National Renewable Energy and Energy Efficiency Policy (NREEEP) and Renewable Energy Master Plan (REMP). NREEEP's long-term target year is 2030 to achieve 23,134.80 MW, while REMP's long-term goal is 2025 to achieve 29,000MW. This shows that there are different targets and different time limits between the two policies. It

¹⁰²⁰ section 5 of the Energy Commission Act > http://www.energy.gov.ng/ecn_act.php > accessed 13 February 2019.

¹⁰²¹ Though NREEEP is being adopted by the Executive arm of the government.

¹⁰²² Z A Elum, and A S Momodu, 'Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach (2017) 76 Renewable and Sustainable Energy Reviews, 72-80 at 75.

¹⁰²³ O Aigbovo and E Ogboka, 'Electric Power Sector Reform Act 2005 and the Development of Renewable Energy in Nigeria (2016) Renewable Energy L. & Pol'y Rev., 7, p.20.; P K Oniemola, and G Sanusi, 'The Nigerian Bio-Fuel Policy and Incentives (2007): a need to follow the Brazilian pathway In Energy, Economy, Environment: The Global View: Proceedings of the 32nd IAEE International Conference (2009) 21-24 at 38.

¹⁰²⁴ There are more than five RE policies in Nigeria with different targets. See section 5.3 Key Existing Policies of RE Development in Nigeria.

is vital to note that where targets of RE development are scattered across different policies, it creates confusion for both implementing agencies and researchers. In this case, the different targets and years of achievement contained in NREEEP, REMP may confuse researchers especially, identifying the current energy targets of the Nigerian government.

Aside from the multiplicity and various targets contained in the energy policies, the targets in both the NREEEP and REMP are not aligned with the ambitious target of Nigeria NDC, which is to achieve 13GW (13,000MW) by 2030. Note that the NDC (13,000MW) is just for off-grid solar, excluding other forms of energy. Instead of having different targets scattered in different energy policies, a single energy policy such as the NREEEP could be adopted as a single energy policy dealing with RE in Nigeria. For instance, in the United Kingdom (UK), RE targets are contained in the UK Renewable Energy Roadmap, updated in 2013.¹⁰²⁵ A similar approach could be followed in Nigeria.

5.5.3 THE NUMBER OF GASES COVERED BY THE POLICIES

The major GHGs highlighted by the IPCC that increased the warming of the atmosphere are not limited to Carbon dioxide (CO₂), Methane (CH₄), Nitrous oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF₆), and Nitrogen trifluoride (NF₃).¹⁰²⁶ They are called baskets of GHG.¹⁰²⁷ The notion is that mitigation activities at the national level should cut across these GHGs.¹⁰²⁸ Contrary to this

¹⁰²⁵ UK Renewable Energy Roadmap Update 2013 at 21 < <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/1750.pdf> > accessed 5th November 2019.

¹⁰²⁶ See Doha amendment to the Kyoto Protocol, at page 4 available at < https://unfccc.int/files/kyoto_protocol/application/pdf/kp_doha_amendment_english.pdf > Accessed 10th April 2019.

¹⁰²⁷ M J Prather and J Hsu, 2008. 'NF₃, the greenhouse gas missing from Kyoto 2008 35(12) Geophysical Research Letters ; Glossary:Kyoto basket > https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Kyoto_basket> accessed 9th January 2019.

¹⁰²⁸ According to Article 4(2) (a) '[E]ach of these Parties shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. Article 4(2) (a) (b) UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General

notion, the Nigerian government's energy policies covered just three of the baskets of the GHGs, namely Carbon dioxide (CO₂), Methane (CH₄), and Nitrous oxide (N₂O).¹⁰²⁹ A critical view of the above table shows that Carbon dioxide (CO₂) is the main focus. The NREEEP, the SE4ALL, and NEP cover only CO₂. The REMP and the NBP cover CO₂ and CH₄, while the NCCPRS¹⁰³⁰ covers CO₂, CH₄ and N₂O. None of the policies cover Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF₆) highlighted by the climate change regime.

Though, most developing countries' policies cover only the three main gases, and less attention is given to other gases such as HFCs and PFCs. This is the case, for instance, with Morocco, where the Morocco NDC clearly states that fluorinated gases are rarely used in Morocco.¹⁰³¹ This is also the case with South Africa.¹⁰³² However, the Nigeria NDC did not deny that gases such as HFCs and PFCs are emitted. As the Nigeria NDC clearly states that 'other gases assumed to be negligible.'¹⁰³³ The justification for the omission is that Nigeria does not have a full GHG inventory and Measurement, Reporting, and Verification (MRV) system.¹⁰³⁴ This is

Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

¹⁰²⁹Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 121-125.

¹⁰³⁰ Discussed in chapter Four at 4.7.1 National Policy on Climate Change (NPCC) 2013.

¹⁰³¹ Morocco Nationally Determined Contribution Under the UNFCCC at 8 available at < <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Morocco%20First/Morocco%20First%20NDC-English.pdf> > accessed 12th October 2019.

¹⁰³²South Africa's Intended Nationally Determined Contribution (INDC) at 11 available at <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf> > accessed 12th October 2019.

¹⁰³³Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment at 17

¹⁰³⁴The weakness of the inventory and Measurement, Reporting and Verification system is discussed in chapter 8

not the case with other countries such as Singapore,¹⁰³⁵ Iceland,¹⁰³⁶ Canada,¹⁰³⁷ where their NDC covers all the baskets of GHGs.

5.5.4 LACK OF PROPER ANALYSIS

The National Biofuel Policy (NBP), NEP, including NREEEP, lacks proper analysis regarding the targets set out. For instance, the NEP generally states that it will ‘make electricity available, accessible, affordable, and reliable 100% to the population by the year 2030.’¹⁰³⁸ However, NEP did not state the cost of technology to be deployed, the key barriers that may hinder the realisation of the plans, and the specific economic growth expected from this plan.

Though, the NREEEP contains some explanations regarding its targets. For instance, the NREEP based its calculation on a 7% growth rate of Nigeria’s economy and that to meet this growth rate, the contribution of RE by 2030 should amount to 23,134.80MW.¹⁰³⁹ It also went further and highlights the key technologies the government needed to be deployed to achieve 23,134.80MW RE in 2030.¹⁰⁴⁰ However, the key barriers that may hinder the realisation of the plans and the specific economic growth expected from these plans are unknown. In contrast,

¹⁰³⁵ Singapore’s Intended Nationally Determined Contribution (INDC) And Accompanying Information at 1 available <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Singapore%20First/Singapore%20INDC.pdf> > accessed 12 October 2019 .

¹⁰³⁶ Iceland’s Intended Nationally Determined Contribution at 2 available at <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Iceland/1/INDC-ICELAND.pdf> > accessed 2nd November 2019.

¹⁰³⁷ CANADA’S INDC SUBMISSION TO THE UNFCCC at 4 available <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Canada/1/INDC%20-%20Canada%20-%20English.pdf> > accessed 1st November 2019.

¹⁰³⁸ Ibid 44.

¹⁰³⁹ Federal Republic of Nigeria, National Energy Master plan (Energy Commission of Nigeria 2014 at 34-36, < [http://www.energy.gov.ng/Energy_Policies_Plan/Draft%20\(Reviewed\)%20NEMP%20-%202014.pdf](http://www.energy.gov.ng/Energy_Policies_Plan/Draft%20(Reviewed)%20NEMP%20-%202014.pdf)> accessed 10th October 2019 .

¹⁰⁴⁰ Ibid.

the UK Renewable Energy Roadmap 2011¹⁰⁴¹ critically analysed the 15% target introduced in the 2009 EU Renewable Energy Directive.¹⁰⁴² This Roadmap analysed key barriers such as technology cost, build rates.¹⁰⁴³ The plan is that 90% generation was necessary to meet the 15% target in 2020.¹⁰⁴⁴ The second update of the UK Renewable Energy Roadmap 2011 unveils that £31 billion private sector investment had been made since 2010, which can generate over 35,000 jobs across the UK.¹⁰⁴⁵ A similar in-depth analysis of barriers and progress seems to be lacking in the renewable energy policies of Nigeria.

5.6 KEY RE PROGRAMMES AND PROJECTS IN NIGERIA

This section deals with integrating RE programmes and projects into the energy supply system,¹⁰⁴⁶ also known as RE penetration.¹⁰⁴⁷ There is already an existing energy system in every country; such systems include electricity, transport, gas, etc. The integration of RE into the existing energy system means deploying RE into these already existing systems such as

¹⁰⁴¹ UK Renewable Energy Roadmap 2011 at 13 available < https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf> accessed 2nd November 2029.

¹⁰⁴² Council Regulation (EC) 28/2009 the promotion of the use of energy from renewable sources [2009] OJ L 140 /5.6. Take note that Directive (EU) 2018/2001 has revised Directive 2009/28/EC which entered into force in 2018. In this new Directive (EU) 2018/2001, Article 8 increased the renewable energy target to at least 32% by 2030 with a possible upward revision in 2023. Also note that, the European Commission on the 14th July 2021 raised its 2030 climate change ambition to cut emission to at least 55% by 2030 known as 'Fit for 55 Package'. Under the Fit for 55 Package, the European Commission proposed to revise Renewable Energy Directive to align with this new ambition. This includes increasing renewable energy target to 45% by 2030. See European Commission, Communication from The Commission To The European Parliament, The Council, The European Economic And Social Committee And The Committee Of The Regions 'Fit for 55': delivering the EU's 2030 Climate Target on the way to climate neutrality (E U 2021) 1-2 available at < [chapeau_communication.pdf](https://ec.europa.eu/communication/pdf/chapeau_communication.pdf) (europa.eu) > Accessed 13th September 2021.

¹⁰⁴³ UK Renewable Energy Roadmap 2011 at 13 available < https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap.pdf> accessed 2nd November 2029.

¹⁰⁴⁴ Ibid.

¹⁰⁴⁵ UK Renewable Energy Roadmap Update 2013 at 21 < [UK Renewable Energy Roadmap - 5 November - FINAL DOCUMENT FOR PUBLICATIO .pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48128/2167-uk-renewable-energy-roadmap-update-2013-final-document-for-publication.pdf) (publishing.service.gov.uk)> accessed 5th November 2019.

¹⁰⁴⁶ R Sims and Hulle, Integration of Renewable Energy into Present and Future Energy Systems. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

¹⁰⁴⁷ Ibid 619.

electricity generation,¹⁰⁴⁸ heating and cooling networks,¹⁰⁴⁹ gas grids, etc.¹⁰⁵⁰ A good example is China's plan to install an average of 85 GW of power plant per year from 2004 to 2008 and in the same period increased its electricity consumption by over 50%).¹⁰⁵¹

There are key electricity reforms that anticipated RE integration in Nigeria. First is the electrical power system reform 2005.¹⁰⁵² This reform established the Nigerian Electricity Regulatory Commission¹⁰⁵³ and the Rural Electrification Agency (REA)¹⁰⁵⁴ to ensure an adequate electricity supply to the consumer.¹⁰⁵⁵ The reform anticipated integration of RE into the electrical power system when it charges REA to expand the main grid, develop isolated and mini-grid systems, and 'renewable energy power generation.'¹⁰⁵⁶ This led to the installation of RE projects in Nigeria. The projects and their relevance to the climate change obligation are discussed below.

Second is the emergence of the Roadmap Power Sector Reform 2012.¹⁰⁵⁷ The Federal Government of Nigeria initiated this Roadmap for Power Sector Reform. This was followed by establishing the Presidential Task Force on Power (PTFP), which aimed to review and perfect the power sector reform.¹⁰⁵⁸ The PTFP presented its report and highlighted specific areas the Nigerian government should address from 2013-2014. The PTFP did not introduce

¹⁰⁴⁸R Sims and Hulle, Integration of Renewable Energy into Present and Future Energy Systems. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation [2011 (eds)], Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. At 619-627 < [2 Cover Sheet + Book TOC.indd \(ipcc-wg3.de\)](#) > Accessed 13th September 2021.

¹⁰⁴⁹ Ibid 640-646.

¹⁰⁵⁰ Ibid 647 – 641.

¹⁰⁵¹ Ibid 619.

¹⁰⁵² Electric Power Sector Reform (EPSR) Act 2005.

¹⁰⁵³ See PART III of the Electric Power Sector Reform (EPSR) Act 2005.

¹⁰⁵⁴ See PART IX of the Electric Power Sector Reform (EPSR) Act 2005.

¹⁰⁵⁵ See section 32 of the Electric Power Sector Reform (EPSR) Act 2005; Ley, K., Gaines, J. and Ghatikar, A., 2015. The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP).at 64.

¹⁰⁵⁶Section 88 (9) Electric Power Sector Reform (EPSR) Act 2005.

¹⁰⁵⁷ The Presidency, Roadmap For Power Sector Reform(A Customer-Driven Sector-Wide Plan To Achieve Stable Power Supply) Federal Republic Of Nigeria 2010 < <http://anedng.com/wp-content/uploads/2016/03/Roadmap-for-Power-Sector-Reform-Full-Version.pdf> > accessed 12October 2019.

¹⁰⁵⁸Ibid.

any changes in any of the policies but rather proposed strategies for the achievement of the National Energy Policy 2003.¹⁰⁵⁹ The Roadmap did not dwell much on the integration of RE. ‘[T]he core focus of the Roadmap was on other forms of energy delivery systems.’¹⁰⁶⁰ Therefore, the following discussion concentrates on key RE projects and programmes the Nigerian government has executed in the past and present to help the Nigerian government integrate RE and EE and achieve the NREOs in the coming years.

5.6.1 LARGE SCALE RE POWER PROJECTS

- *FEDERAL MINISTRY OF POWER*

The only known RE project successfully implemented on a large commercial scale by the Nigerian government is hydropower.¹⁰⁶¹ This is driven by the Federal Ministry of Power (FMP) —a Federal Government Agency.¹⁰⁶² There are currently three existing large power plants (Kainji: 760 MW; Jebba: 570 MW; Shiroro: 600 MW) with a combined capacity of 1,900 MW.¹⁰⁶³ These hydropower plants account for about 23.1% of electricity generation in Nigeria.¹⁰⁶⁴ Apart from these three projects, the FMP is still implementing other hydropower

¹⁰⁵⁹ K Ley and A Ghatikar, ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP)72.

¹⁰⁶⁰Ibid; Some of the recommendations are, to continue with the privation reform, stop vandalization of pipelines that will hinder gas supply for power generation, improve service delivery etc see generally, The Presidency, Roadmap For Power Sector Reform(A Customer-Driven Sector-Wide Plan To Achieve Stable Power Supply) Federal Republic of Nigeria 2010 < <http://anedng.com/wp-content/uploads/2016/03/Roadmap-for-Power-Sector-Reform-Full-Version.pdf> > accessed 12October 2019.

¹⁰⁶¹ K Ley and A Ghatikar, ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 84 ; Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) page 74 available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019 Page 74.

¹⁰⁶² Ibid 84.

¹⁰⁶³ Ibid 84.

¹⁰⁶⁴ Quarterly Report, First Quarter 2019 ‘Nigerian Electricity Regulatory Commission (NERC) 1-72 at 27

projects known as the Mambilla and Zungeru plants. The latter was financed via a loan from China.¹⁰⁶⁵ These two projects are at different stages of implementation.¹⁰⁶⁶ It is important to note that the development of hydropower in Nigeria has limitations. For instance, the Nigerian government preferred natural gas-fired power generation to hydropower.¹⁰⁶⁷ This is because of the time and cost to construct a suitable dam for hydropower installation.¹⁰⁶⁸ To deal with this challenge, the Nigerian government has partnered with international organisations to fund small hydropower stations. About 277 small hydropower stations and 33 large hydro power have been identified.¹⁰⁶⁹ Despite the efforts of the Nigerian government, hydropower generation is still low in Nigeria.¹⁰⁷⁰

- *NIGERIA FEED IN TARIFF*

The Nigeria Feed in Tariff was issued as a result of Electricity Reform 2005.¹⁰⁷¹ The intention first is to stimulate investment in the renewable industry sector.¹⁰⁷² The second is to encourage electricity distributing companies ‘to source at least 50% of their total procurement from renewables.’¹⁰⁷³ The Nigeria Feed in Tariff attracted about 14 solar Independent Power Producers in July 2016. However, there is a loop in the contract. The Independent Power Producers want to sell power at an initially agreed price of US\$0.115 per kWh, but the Federal

¹⁰⁶⁵Ibid 90.

¹⁰⁶⁶ Ibid.

¹⁰⁶⁷ Y S Mohammed and A S Mokhtar, ‘Renewable energy resources for distributed power generation in Nigeria: a review of the potential (2013) 22 Renewable and Sustainable Energy Reviews, 257-268.

¹⁰⁶⁸ E A Kalitsi, ‘Problems and prospects for hydropower development in Africa (2003) In the Workshop for African Energy Experts on Operationalizing the NGPAD Energy Initiative 2-4.).

¹⁰⁶⁹ Z A Elum and V Mjimba, ‘Potential and challenges of renewable energy development in promoting a green economy in Nigeria (2020) 12 (2) Africa Review,172-191 at 183.

¹⁰⁷⁰ Z A Elum and V Mjimba, ‘Potential and challenges of renewable energy development in promoting a green economy in Nigeria (2020) 12 (2) Africa Review,172-191 at 183.

¹⁰⁷¹ Nigerian Electricity Regulatory Commission Regulations on Feed-In Tariff for Renewable Energy Sourced Electricity in Nigeria 2015 available < <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/laws/2027.pdf> > accessed 10th October 2019.

¹⁰⁷² Ibid Regulation 3.

¹⁰⁷³The International Energy Agency available < <https://www.iea.org/policiesandmeasures/pams/nigeria/name-154529-en.php> > accessed 12October 2019.

government of Nigeria insisting on a tariff of US\$0.075 per kWh.¹⁰⁷⁴ Based on this disagreement, the contract is yet to be executed.¹⁰⁷⁵

In sum, the only successful large scale RE power project exploited in Nigeria is hydropower.¹⁰⁷⁶ Other forms of large scale RE such as wind, solar, and many others are undeveloped. The reason for the underdevelopment of solar as already highlighted, is due to the unsuccessful contract between the Federal government and the Independent Power Producers. In the case of wind energy, there is no clear reason why the Nigerian government is unable to carry out wind energy even though Nigeria has wind potential for both onshore and wind farm construction.¹⁰⁷⁷ The available information suggests a lack of commitment, human resources, and funding. For instance, the FMP attempted to develop two wind farm projects¹⁰⁷⁸ but these wind farm power projects were abandoned due to a lack of manpower and funding.¹⁰⁷⁹

5.6.2 SMALL SCALE RE PROJECTS

- *FEDERAL MINISTRY OF POWER*

Several Federal Government Agencies are driving small scale RE projects. For instance, the FMP initiated a nationwide programme in 2014 known as Operation Light-Up Rural

¹⁰⁷⁴ Oxford Institute for Energy Studies, *Overcoming the Market Constraints to On-Grid Renewable Energy Investments in Nigeria* (2019) 35-39.

¹⁰⁷⁵ Ibid.

¹⁰⁷⁶ Z A Elum and V Mjimba, 'Potential and challenges of renewable energy development in promoting a green economy in Nigeria' (2020) 12 (2) *Africa Review*, 172-191 at 183.

¹⁰⁷⁷ W O Idris and A Albani, 'The Status of the Development of Wind Energy in Nigeria. 2020 13(23), *Energies* 6219; AA Attabo and S O Oyedepo, 'September. Wind energy generation from Nigeria continental shelf: A review. In IOP Conference Series: Earth and Environmental Science 2019 (331)1 IOP Publishing at 1-16; O I Okoro and P Govender, 'Prospect of wind energy in Nigeria. In Proceedings of the International Conference on Domestic Use of Energy, Cape Town, South Africa P 10-13.

¹⁰⁷⁸ Ibid 87; Namely 10 MW in Katsina, and 100 MW in Plateau State.

¹⁰⁷⁹ Z A Elum and V Mjimba, 'Potential and challenges of renewable energy development in promoting a green economy in Nigeria' (2020) 12 (2) *Africa Review*, 172-191 at 186.

Nigeria.¹⁰⁸⁰ This programme was meant to install three solar power mini-grids in each of the 36 states of Nigeria.¹⁰⁸¹ The only information available regarding this programme is that 3 standalone systems were installed in the streets of the federal capital of Nigeria, Abuja.¹⁰⁸² The progress and extension of the programme to the rest of the 36 states are not available. Under the Renewable Energy Micro-Utility programme, the FMP, through the Department of Renewables and Rural Power Access, embarked on an on-grid connected hybrid solar PV mini-grid power project in Torankawa village Sokoto State of Nigeria.¹⁰⁸³ The project aimed ‘to power 350 households and 20 small businesses, covering 1,750 people’ when completed.¹⁰⁸⁴ A 15 MW, solar IPP, is under construction in two major states in the northern part of the country.¹⁰⁸⁵ It was assessed that if ‘the solar PV plant becomes operational, it will substitute for around 7,502,600 litres of diesel fuel per year.’¹⁰⁸⁶

- *FEDERAL MINISTRY OF ENVIRONMENT*

Aside from the FMP, the Federal Ministry of Environment (FME), a Federal Government agency, initiated some projects. The FME, through its Renewable Energy Programme, claimed to have embarked and successfully installed a rural electrification project, specifically, a ‘standalone solar systems for 600 households.’¹⁰⁸⁷ The FME is also developing a biofuel

¹⁰⁸⁰ K Ley and A Ghatikar, 2015. ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) at 122.

¹⁰⁸¹ Ibid 122.

¹⁰⁸² Ibid.

¹⁰⁸³ Federal Government of Nigeria Pursuant to the Local Loans (Registered Stock and Securities) Act, CAP. L17, LFN 2004 Offer for Subscription at page 29-31.

¹⁰⁸⁴ Federal Government of Nigeria Pursuant to the Local Loans (Registered Stock and Securities) Act, CAP. L17, LFN 2004 Offer for Subscription at page 29-31.

¹⁰⁸⁵ K Ley and A Ghatikar, 2015. ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 87.

¹⁰⁸⁶ K Ley and A Ghatikar, 2015. ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 87.

¹⁰⁸⁷ Ibid.

production complex in different states.¹⁰⁸⁸ Through the Renewable Energy Programme of the FME, the FME is developing a ‘rice processing and power generating facilitator’ in Adamawa state of Nigeria. This plant is designed to produce a huge amount of rice and at the same time generate power from the rice husks.¹⁰⁸⁹ Also, the Renewable Energy Programme and Green Carbon Afrique is developing a sugarcane-based biofuel plant covering about 2,000 hectares of land in two local government areas.¹⁰⁹⁰ The FME claimed that these programmes are ongoing,¹⁰⁹¹ but the current status of the programmes is not available. Aside from the FME, the Renewable Division of Nigeria National Petroleum Corporation also claimed to have embarked on a couple of biofuel projects under the biofuel policy programme 2005.¹⁰⁹² The biofuel programme of Nigeria National Petroleum Corporation was abandoned due to a lack of funding.¹⁰⁹³

- *RURAL ELECTRIFICATION AGENCY AND THE ENERGY COMMISSION OF NIGERIA*

Rural Electrification Agency (REA) is also a Federal Government Agency. Section 88 of the Electric Power Sector Reform Act 2005 empowers the REA to promote and support rural electrification programmes.¹⁰⁹⁴ REA reported that it has completed over 1000 RE related

¹⁰⁸⁸Ibid 90; Some of the states where biofuel complex is currently going are ‘Global Biofuels Ltd is developing a biofuel production complex at Ilemeso in the northern part of Ekiti state of Nigeria. Similar plants are planned to be established at Ondo, Kwara, Osun, Oyo, Kogi, Kaduna, Kano, Zamfara, Benue, Plateau, and Nasarawa. Also, The Renewable Energy Programme office, Adamawa State Government and Green Carbon Afrique is developing sugarcane-based biofuel plants in Girei and Demsa Local Government Areas of Adamawa State covering 2,000 hectares of plantation’.

¹⁰⁸⁹ Ibid 90.

¹⁰⁹⁰ Ibid 90.

¹⁰⁹¹Federal Ministry of Environment available at < <https://environment.gov.ng/clean-energy-initiatives/> > Accessed 20 March 2020.

¹⁰⁹² Nigeria National Petroleum Corporation, Renewable Energy available at <https://nnpcgroup.com/NNPC-Business/Midstream-Ventures/Pages/Renewable-Energy.aspx> > Accessed 12 June 2020.

¹⁰⁹³ K C Onuoha, ‘What are the Prospects and Challenges of Biofuels in Nigeria?’ (2010) Available at SSRN 1959778. At 63; A S Aliyu and M M Usman, ‘Biofuel development in Nigeria: Prospect and challenges (2017) 36 (1) Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 36.1-9, 5-6; B O Balogun, ‘Effects of biofuel production on selected local Communities in Nigeria (2016) 7(3), Journal of Petroleum Technology and Alternative Fuels,18-30. At 28.

¹⁰⁹⁴ Section 88 (13) Electric Power Sector Reform Act 2005.

projects.¹⁰⁹⁵ It claims that the projects may support infrastructures such as water pumps and agricultural sources.¹⁰⁹⁶ But the project details are not available.¹⁰⁹⁷ The Energy Commission of Nigeria, another Federal Government Agency, listed a couple of RE projects in its 2019 capital project.¹⁰⁹⁸ More than 70% of these projects are solar PV.¹⁰⁹⁹ Contracts are already awarded to different companies for the construction of the projects.¹¹⁰⁰ When these projects will be completed are unknown.

- *INTERNATIONAL INTERVENTION PROGRAMME*

The well-known RE programme by an international organisation in Nigeria is the Nigerian Energy Support Programme (NESP).¹¹⁰¹ This programme is funded by the European Union and the German government. The first phase covers 2013 -2018.¹¹⁰² At the end of the first phase, NESP claimed that the programme empowered about 16,000 people with solar power in rural areas.¹¹⁰³ This means about 3,147 households in five different states now have access

¹⁰⁹⁵ K Ley and A Ghatikar, 2015. 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 122.

¹⁰⁹⁶ Ibid 'Rea Projects Within 2017 Appropriation Budget' available at < <https://rea.gov.ng/rea-projects-within-2017-appropriation-budget/> > Accessed 22nd March 2019.

¹⁰⁹⁷ K Ley and A Ghatikar, 2015. 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 122.

¹⁰⁹⁸ Energy Commission of Nigeria available at < <http://www.energy.gov.ng/advert.php> > Accessed 12 April 2019.

¹⁰⁹⁹ Energy Commission of Nigeria available at < <http://www.energy.gov.ng/advert.php> > Accessed 12 April 2019.

¹¹⁰⁰ Energy Commission of Nigeria, List of Successful Companies for 2019 Capital Projects available at < <http://www.energy.gov.ng/LIST%20OF%20SUCCESSFUL%20COMPANIES%20FOR%20ECN%202019%20CORE%20CAPITAL%20PROJECTS1.pdf> > Accessed 12 March 2019.

¹¹⁰¹ German Agency for International Cooperation (GIZ), available at <https://www.giz.de/en/worldwide/26374.html> > Accessed 22nd March 2020.

¹¹⁰² Nigerian Energy Support Programme II available at https://www.giz.de/en/downloads/NESP%20II_Factsheet.pdf > Accessed 10th 2020.

¹¹⁰³ German Agency for International Cooperation (GIZ), available at <https://www.giz.de/en/worldwide/26374.html> > Accessed 22nd March 2020.

to mini grids due to this programme. NESP states that [A] further 100,000 people will be provided with environmentally friendly electricity by 2020.’¹¹⁰⁴

In sum, small scale RE development is mainly carried out by Federal government Agencies. Some are ongoing, and some are abandoned.¹¹⁰⁵ The majority of small scale RE is centred on solar, biofuel other renewable sources such as geothermal, nuclear energy, waves, tidal, and ocean thermal has remained untapped in Nigeria.¹¹⁰⁶

5.7 KEY EE PROGRAMMES AND PROJECTS IN NIGERIA

Energy efficiency (EE) ‘simply means using less energy to produce the same service.’¹¹⁰⁷ For instance, substituting an incandescent light bulb with a Compact Florescent lamp (CFL) popularly known as energy saving light.¹¹⁰⁸ Federal Government Agencies initiate few EE projects. The Rural Energy Access Project, which FME initiated under the Renewable Energy Programme, proposes a standalone solar kit to replace incandescent bulbs, oil lamps, and diesel generators.¹¹⁰⁹ The FME also started a Clean Cooking Scheme (biomass stove) through its Rural Women Energy Security programme.¹¹¹⁰ The success of these two programmes remains

¹¹⁰⁴ German Agency for International Cooperation (GIZ), available at <https://www.giz.de/en/worldwide/26374.html> > Accessed 22nd March 2020.

¹¹⁰⁵ See sections 5.6.1 Large scale RE power projects and 5.6.2 small scale RE projects.

¹¹⁰⁶ K Ley and A Ghatikar, 2015. ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 88

¹¹⁰⁷ R Ottinger, UNEP Guide for Energy Efficiency and Renewable Energy Laws (2016) at 39; K Ley and A Ghatikar, 2015. ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 33.

¹¹⁰⁸ Ibid.

¹¹⁰⁹ K Ley and A Ghatikar, ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 122.

¹¹¹⁰ Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) 82-85 available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

unknown. Aside from this, the Energy Commission of Nigeria also claimed to have freely handed out about one million CFL to different homes.¹¹¹¹

5.8 KEY SDG 7 PROJECTS AND PROGRAMMES

Since the adoption of the SDGs, the Nigerian government has released two Voluntary National Reviews (VNR). VNR is a follow up and a voluntary review mechanism conducted by national governments to report the progress of the SDGs performance and implementation at the national level.¹¹¹² Nigeria has released its first VNR in 2017¹¹¹³ and the second in 2020.¹¹¹⁴ Both the 2017 and 2020 VNRs did not mention and report on SDG 7, 13, and 15, rather the Nigerian government picks and focuses on SDGs 1, 8, 3, 4, 5, 16, and 17 and left out SDG 7 and 15. The reasons for prioritising these SDGs are based on the three cardinal promises contained in the Nigerian ruling party's manifestos: namely, the development of the Nigerian economy, the fight against insecurity, and the fight against corruption.¹¹¹⁵ This thesis will not discuss the level of implementation of the above-stated SDGs and the three main objectives of the Nigerian government in detail since they are beyond the scope of this research. Though, this thesis acknowledges in section 8.4 Overarching Challenges that security and other factors are some of the key overarching challenges for achieving the climate change obligations. This research argues that the failure of the Nigerian government and VNR to report on SDG 7 and 15 does not mean that the Nigerian government is not carrying out activities relating to SDG 7. As rightly argued in section '5.6 KEY RE PROGRAMMES AND PROJECTS IN

¹¹¹¹ Ibid.

¹¹¹² Para 79, GHG UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2021].

¹¹¹³ Federal Republic of Nigeria, 'Implementation of the SDGs A National Voluntary Review' (2017) available at [16029Nigeria.pdf \(un.org\) > Accessed 27th January 2022.](#)

¹¹¹⁴ NIGERIA National Development Planning A Second Voluntary National Review (2022) available at [*26308VNR 2020 Nigeria Report.pdf \(un.org\) > accessed 27th January 2022.](#)

¹¹¹⁵ Ibid at page v.

NIGERIA.’ The fulfilment of the RE project under the climate change regime, such as the Green Bond project could lead to the fulfilment of SDG 7 and 15.

5.9 ANALYSIS AND KEY FINDINGS OF THE RE PROJECTS

Some of the above programmes and projects may support Article 4(1) (c) UNFCCC Article 2 (1) (i) Kyoto Protocol, SDG targets 7.1 and 7.2 and 7:3, which encourage member states to develop and promote RE, increase RE mix and energy efficiency. Some of the above projects may also support the Nigeria NDC, particularly improving the electricity grid and working towards an off-grid solar PV of 13GW (13,000MW). In addition, the above projects, if implemented, will improve economic activities of the country because all forms of economic activities require some form of energy.¹¹¹⁶ However, RE is not fully integrated into on-grid electricity generation, and most of the drivers of RE agencies in Nigeria are Federal Government Agencies - this means that RE generation is more or less centralised. This also means that state governments¹¹¹⁷ are not fully participating in RE development in Nigeria, which could slow RE penetration in Nigeria. These points are elaborated on below.

5.9.1 ONGRID PENETRATION OF RE IN NIGERIA

A critical assessment of the above projects unveils that some of the projects are ongoing, some are abandoned, few are completed. To date, RE is not part of an on-grid connection except hydro. For instance, the first quarter of the 2019 report shows two major sources of electricity generation. They are hydropower 23.1 % and thermal (natural gas) 76.9%.¹¹¹⁸ Nigeria on grid

¹¹¹⁶ S O Oyedepo, ‘Energy and sustainable development in Nigeria: the way forward (2012) 2 (1) Energy, Sustainability and Society 15, 11.

¹¹¹⁷ Nigeria operates a three-tier system of government that is, the central government, state governments and the local government. There are 36 states in Nigeria.

¹¹¹⁸ Quarterly Report, First Quarter 2019 ‘Nigerian Electricity Regulatory Commission (NERC) 1-72 at 27.

electricity mix does not show solar, neither wind nor biofuel. Compared to other countries such as the UK, renewables amount to 31.09% (onshore wind, 9.84, offshore wind, 8.56, hydro 1.81, solar PV, 2.12, and bioenergy 8.76. 31.09.)¹¹¹⁹ In South Africa, the electricity generation in 2018 released shows that thermal: 46,776 MW, hydroelectric: 661 MW, and other Renewables: 3,872 MW.¹¹²⁰ This is also the case with Tanzania, which has substantially integrated RE into the national grid.¹¹²¹ This is not the case in Nigeria.

The non-reflection of RE in on grid connection is not a total surprise. It is known that Nigeria's electricity generation performance is poor compared to other developing countries such as Indonesia and Bangladesh. For the past 20 years, Nigeria has managed to increase 93% in mainline generating capacity; in comparison, 'Indonesia ramped up its electricity production by 372% and Bangladesh even by 451%.¹¹²² As a result, Bangladesh generated almost twice as much electrical energy in 2012 as Nigeria did.'¹¹²³ The poor performance of electricity generation and poor integration of RE into electrical power systems have led to the epileptic power supply in Nigeria. For instance, Nigeria's electricity capacity was estimated as '6,200 MW in 2012 and has risen to 6, 840 MW in 2015.'¹¹²⁴ Nigeria's electricity peak generation of the first quarter of 2019 was estimated as 5,375MW¹¹²⁵ with an estimated population of 180

¹¹¹⁹ Department of Business, Energy and Industrial Strategy, UK Energy Statistics, Q1 2019 at 9-11 available < https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812626/Press_Note_June_19.pdf > Accessed 12 October 2019.

¹¹²⁰ United States Agency for International Development (USAID) available < <https://www.usaid.gov/powerafrica/south-africa> > accessed 10th November 2019.

¹¹²¹ Hydroelectric: 568 MW, Thermal: 925 MW Other Renewables: 82.4 MW see generally United States Agency for International Development (USAID) available at < <https://www.usaid.gov/powerafrica/tanzania> > accessed 12th October 2019.

¹¹²² K Ley and A Ghatikar, 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 35.

¹¹²³ Ibid 35.

¹¹²⁴ K Ley and A Ghatikar, 2015. 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 33.

¹¹²⁵ Quarterly Report, First Quarter 2019 'Nigerian Electricity Regulatory Commission (NERC) 1-72 at 9.

million.¹¹²⁶ Compare the situation to other countries, such as South Africa, where electricity generating capacity is 51,309 with a population of 54.8 million.¹¹²⁷ Because of this poor electricity generation, most parts of Nigeria experience total blackouts.¹¹²⁸ It was estimated that 70% of the rural population in Nigeria does not have access to the national grid.¹¹²⁹ In the urban areas, firms suffer outages for an average length of 6 hours by costing business losses.¹¹³⁰ To make up for this, most Nigerians still rely on off-grid electricity generation.¹¹³¹ About 50% of the electric energy consumed by the citizens is being generated off-grid. This is mainly from fossil fuel (gasoline generators),¹¹³² one of the sources of air pollution as well as GHG emissions.¹¹³³ This clearly shows that the efficacy of these programmes and projects is doubtful.

¹¹²⁶ Federal Ministry of Environment, Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 20.

¹¹²⁷ The United States Agency for International Development (USAID) 'South Africa. Power Africa Fact Sheet' available at < <https://www.usaid.gov/powerafrica/south-africa> > accessed 1st October 2019.

¹¹²⁸ W S Ebhota. And P Y Tabakov, 'Power Inadequacy, the Thorn in Economic Growth of Nigeria.' 2018 13916) International Journal of Applied Engineering Research 12602-12610 at 12602.

¹¹²⁹ M O Oseni, 'Improving households' access to electricity and energy consumption pattern in Nigeria: Renewable energy alternative (2012) 16 (6) Renewable and Sustainable Energy Reviews, 3967-3974 at 3967 ; National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria at 18 < <http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > Accessed 12 January 2019.

¹¹³⁰ G Occhiali and G Falchetta, (2018): 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM) Milano at 8.

¹¹³¹ See K Ley and A Ghatikar, 2015 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 34.

¹¹³² Gasoline generators are mostly used for domestic power back up whenever there is power outage. See B N Nwankwojike, and M O Egwuagu, 'Life Cycle Cost Analysis of Residential Power Backup Gasoline Generators in Nigeria' (2019) 23 (12) Journal of Applied Sciences and Environmental Management 2259-2261; R Cervigni and M Henrion, Low-Carbon Development: Opportunities for Nigeria (eds., 2013 The World Bank) 77.

¹¹³³ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) 'National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 25 available <https://unfccc.int/sites/default/files/nigerianeeds.pdf> > Accessed 20th September 2019.

5.9.2 RE GENERATION IS CENTRALISED IN NIGERIA

As stated above, most of the agencies involved in RE integration are Federal Government Agencies. State governments in Nigeria are not fully involved in RE integration. The Electricity Power Sector Reform 2005 led to the establishment of the Rural Electrification Agency (REA), arguably centralised electricity generation in the country.¹¹³⁴ This contradicts the 1999 Nigerian Constitution as amended. Electricity generation is mentioned in the concurrent legislative list of the 1999 Constitution.¹¹³⁵ This means state governments can be involved in electricity generation especially, off grid generation. However, the REA, a Federal Government Agency, created under section 88 of Electric Power Sector Reform Act 2005, is mandated to administer Rural Electrification Fund to promote and support rural electrification programmes.¹¹³⁶

RE development practice in most other jurisdictions are no longer centralised nor are they a Federal government affair. RE development is decentralised where municipal cities are fully involved in RE generation, especially off grid.¹¹³⁷ A good example of decentralised rural electricity generation is South Africa. Between the 1980s and 1990s, when the World Bank pushed structural adjustment programme, one of the reforms was to unbundle electricity generation, transmission, and distribution in a manner these activities ‘would be independently regulated in a free, decentralised market.’¹¹³⁸ Also, the Constitution of South Africa recognised city governments’ rights in the energy sector.¹¹³⁹ This right allows municipal cities to make

¹¹³⁴ Yemi Oke, ‘Conflicting laws keep Nigeria’s electricity supply unreliable’ (2017) The Conversation available at <https://theconversation.com/conflicting-laws-keep-nigerias-electricity-supply-unreliable-81393> > Accessed 12th April 2020.

¹¹³⁵ See PART II item 13, 14 and 15 of the Concurrent Legislative List of 1999 Constitution of Nigeria as Amended

¹¹³⁶ Section 88 (13) Electric Power Sector Reform Act 2005.

¹¹³⁷ D Dodman, ‘Blaming cities for climate change? An analysis of urban greenhouse gas emissions inventories. (2009) 21 91) Environment and urbanization, 185-201 at 185; V C Broto, and H Bulkeley, ‘A survey of urban climate change experiments in 100 cities (2013) 23 91) Global environmental change, 92-102 at 92.

¹¹³⁸ J P Elsässer and F Stehle, The role of cities in South Africa’s energy gridlock (2018) 2 (1) Case Studies in the Environment, 1-7 at 2.

¹¹³⁹ Ibid 3; Republic of South Africa, Constitution of the Republic of South Africa. Pretoria: Government of South Africa;1996.

policies and develop RE projects over the years.¹¹⁴⁰ Major cities like Cape Town have adopted the City of Cape Town Energy and Climate Change Strategy in 2006, which targets achieving a 10% share of RE before 2020.¹¹⁴¹ Other cities like Durban and Johannesburg in 2012 followed a similar trend.¹¹⁴² Other cities like Durban and Johannesburg in 2012 followed a similar trend. These policies led to the establishment of RE in South Africa. For instance, Durban has equipped its municipal stadium with solar PV, Johannesburg has launched its landfill gas to electricity generation, which can generate around 11MW into the municipal grid.¹¹⁴³ Although, the amount of electricity generation by the municipal cities is still controlled by the South African government.¹¹⁴⁴ The point is that RE development in Nigeria is more or less a Federal government affair; state governments are technically inactive in RE development.¹¹⁴⁵ The present arrangement does not encourage massive state governments' involvement in RE generation in Nigeria.

5.9.3 LOW FUNDING OF RE DEVELOPMENT

Several RE projects were abandoned due to funding. For example, the wind farm power projects, the FIT programme, the biofuel programme of the Nigeria National Petroleum

¹¹⁴⁰J P Elsässer and F Stehle, *The role of cities in South Africa's energy gridlock* (2018) 2 (1) *Case Studies in the Environment*, 1-7 at 3; T Hickmann and F Stehle, 'The embeddedness of urban climate politics in multilevel governance: A case study of South Africa's major cities' (2019) 28 (1) *The Journal of Environment & Development*, 54-77 at 57.

¹¹⁴¹The city of Cape Town. *City of Cape Town Energy and Climate Change Strategy*. Cape Town: City of Cape Town; 2006.

¹¹⁴²J P Elsässer and F Stehle, *The role of cities in South Africa's energy gridlock* (2018) 2 (1) *Case Studies in the Environment*, 1-7 at 4.

¹¹⁴³ *Ibid* 4.

¹¹⁴⁴ Republic of South Africa National Energy Regulator Act 2004 Pretoria: Government of South Africa;2005.

¹¹⁴⁵ However, two states in Nigeria, Kaduna and Nasarawa states signed a memorandum with energy development companies to develop solar PV. See Nigeria Investment Promotion Commission, *Kaduna State to Develop 30MW Solar PV Plant*' available at < <https://nipc.gov.ng/2018/12/12/kaduna-state-to-develop-30mw-solar-pv-plant/> > Accessed 6th July 2020.

Corporation, and several others were not successful due to lack of funds.¹¹⁴⁶ This indicates that funding is crucial for the development of RE in Nigeria.

This research is aware of the effort of the Nigerian government to secure loans to finance RE project like the Zungeru¹¹⁴⁷ plants and the green bond programme¹¹⁴⁸ which the Nigerian government has initiated to fulfil the Nigeria NDC commitments under the Paris Agreement. This research is also aware of the annual budgetary provisions to fund some key energy projects in Nigeria. The Nigeria 2020 budget for energy-related projects is about ₦8.7 billion.¹¹⁴⁹ (£16m). It is important to note that the budgetary provisions are blanket allocation for the development of all energy sources, including research and development of coal.¹¹⁵⁰ The budget did not specify the exact amount that will be channelled into RE energy development. Even though the exact amount for RE development is unknown, this research argues that the amount captured in the 2020 budget for all energy development is low considering other countries' investment into RE development. For instance, China had invested \$100b in RE development in 2018¹¹⁵¹ — wind power accounts for \$56.4bn in 2019, while solar investment is estimated as \$41bn in 2018, excluding biomass other smart technologies. Though this amount is said to have dropped in recent years.¹¹⁵² A developed country like the UK has invested \$5.9bn in wind energy in 2018,¹¹⁵³ excluding solar, biomass, and energy smart technology.¹¹⁵⁴ This research argues that Nigeria may be far behind other countries that are making a reasonable investment

¹¹⁴⁶See section 5.6 Key RE programmes and Projects.

¹¹⁴⁷ K Ley and A Ghatikar, 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 90.

¹¹⁴⁸ The Nigerian Green bond programme is discussed in section 6.3.3 The Green Bond programme of Nigeria.

¹¹⁴⁹ Federal Republic of Nigeria, 2020 APPROPRIATION 942- 971 (budget office of the federation federal republic of Nigeria available at [2019 Budget Analysis - Budget Office of the Federation - Federal Republic of Nigeria > accessed 5th 2021](#)

¹¹⁵⁰Ibid at 728.

¹¹⁵¹NS Energy, Top 10 countries for clean energy capacity investment in 2019 available at [<Top 10 countries for clean energy capacity investment in 2019 \(nsenergybusiness.com\) > Accessed 22 May 2021](#)

¹¹⁵² Ibid.

¹¹⁵³ Ibid.

¹¹⁵⁴ Ibid.

in RE development to meet Paris Agreement commitments if a deliberate effort is not made to increase RE funding.

5.10 FOSSIL FUEL SUBSIDY AND ITS IMPACT ON RE DEVELOPMENT

The World Trade Organisation described subsidy as a financial contribution by a government which includes but not limited to grants, loans, incentives, tax break to a recipient.¹¹⁵⁵ The idea of subsidy is to confer a benefit to either consumers or producers.¹¹⁵⁶ A subsidy is termed a production subsidy where the government makes it less costly for producers to develop resources.¹¹⁵⁷ While a consumption subsidy, for instance, is targeted to reduce energy prices to allow the poor access to electricity.¹¹⁵⁸ It was said that ‘if the price of the petrol is lower than the going rate’ that is a clear indication of consumer subsidy.¹¹⁵⁹

A subsidy is not a bad economic instrument. As rightly noted, it confers benefits to both consumers and producers. However, a subsidy is considered harmful to the environment, especially if the government subsidy encourages consumption or production of fossil fuel that increases the emissions of GHGs. This point is clearly highlighted by the Organisation for Economic Co-operation and Development report 2015,¹¹⁶⁰ which states that

measures that directly support the production or unabated consumption of fossil fuels are prime examples of policies that run counter to mitigation objectives. Because they reduce the effective price of carbon price, fossil fuel subsidies make it difficult to

¹¹⁵⁵ See Article 1.1 of Agreement on Subsidies and Countervailing Measures, WTO available at [WTO | legal texts - Marrakesh agreement](#) > accessed 2nd April 2021.

¹¹⁵⁶ See Article 1 (b) *ibid*.

¹¹⁵⁷ *Ibid* Jocelyn Timperley, ‘Explainer: The challenge of defining fossil fuel subsidies’ (Carbon Brief 2017) available at < [Explainer: The challenge of defining fossil fuel subsidies | Carbon Brief](#) > accessed 4th February 2021.

¹¹⁵⁸ *Ibid* Jocelyn Timperley, ‘Explainer: The challenge of defining fossil fuel subsidies’ (Carbon Brief 2017) available at < [Explainer: The challenge of defining fossil fuel subsidies | Carbon Brief](#) > accessed 4th February 2021.

¹¹⁵⁹ *Ibid* .

¹¹⁶⁰ OECD (2015), OECD Companion to the Inventory of Support Measures for Fossil Fuels 2015 available at [OECD Companion to the Inventory of Support Measures for Fossil Fuels 2015 | READ online \(oecd-ilibrary.org\)](#) > accessed 3rd 2021.

operate a necessary shift towards low carbon energy sources. In that sense, they belong to broader set of environmental harmful subsidies...'¹¹⁶¹

Several intergovernmental organisations¹¹⁶² and academics¹¹⁶³ advocated for fossil fuel reform, especially the consumer subsidies widely practiced in developing countries.¹¹⁶⁴ This is because government spending on consumer subsidies far exceeds public spending on health, education, and many others. Which is why a developing country like Indonesia has made a drastic effort to reform consumer subsidies.¹¹⁶⁵ Different developing countries' NDCs such as Indonesia, Ukraine, including Nigeria recognised the removal of harmful subsidies.¹¹⁶⁶ For instance, the Nigeria NDC noted that 'the removal of consumer and producer subsidies for fossil fuels can help stabilize government budgets...'¹¹⁶⁷ The point is that inefficient subsidies, either during production or consumption that will increase the emissions of GHGs, is a threat to the realisation of the emission reduction commitments made under the Paris Agreement. The next subtopic discussed the subsidy programme of the Nigerian government.

¹¹⁶¹ OECD (2015), OECD Companion to the Inventory of Support Measures for Fossil Fuels 2015, at page 12 available at

[OECD Companion to the Inventory of Support Measures for Fossil Fuels 2015 | READ online \(oecd-ilibrary.org\)](https://www.oecd-ilibrary.org/publications/9789264271111) > accessed 3rd 2021

¹¹⁶² Such as, OECD (2015), OECD Companion to the Inventory of Support Measures for Fossil Fuels 2015; UNEP, Fossil fuel subsidy reform, available at <[Fossil fuel subsidy reform | UNEP - UN Environment Programme](https://www.unep.org/finance/energy/fossil-fuel-subsidy-reform)> accessed March 20th 2021.

¹¹⁶³ P Brink and F Oosterhuis, 'The way forward: reforming EHS in the transition to a green economy. In Paying the Polluter (Edward Elgar Publishing 2014) ; H Pereira, 'How the WTO can help tackle climate change through fossil fuel subsidy reform (2018) International Centre for trade and sustainable development at 24 ; B Ram and C Engineer, 'Renewable energy development in Africa-challenges, opportunities, way forward (2006) South Africa Regional Office, African Development Bank at 17 and 18; L Merrill and I Gerasimchuk, Making the Switch From fossil fuel subsidies to sustainable energy (Nomadic Council of Ministry 2017) at 65-67.

¹¹⁶⁴ Ibid.

¹¹⁶⁵ See Ministry of Finance, Republic of Indonesia, Indonesia's Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > Accessed 12th September 2020.

¹¹⁶⁶ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 15.

¹¹⁶⁷ At page 15 Nigeria NDC.

5.11 NIGERIA FOSSIL FUEL SUBSIDY PROGRAMME

Nigeria produces about 1,737.4 million barrels of crude oil per day.¹¹⁶⁸ The irony is that Nigeria imports over 80% of refined petroleum to meet its needs¹¹⁶⁹ because the existing facilities for petroleum processing are not working.¹¹⁷⁰ Since the petrol processing facilities are not working, the Nigerian government rely completely on marketers or dealers—who import the refined petrol and sell it to the Nigerian government.¹¹⁷¹

Petroleum is main driver behind economic activities in Nigeria,¹¹⁷² and an increase in the price of petrol would increase the cost of living.¹¹⁷³ The Nigerian government decided to regulate the price of petrol to be sold in Nigeria. The Nigerian government did that through the Price Control Act of Nigeria in 1977.¹¹⁷⁴ The law prescribes a stricter sanction for a marketer who sells above the regulated price.¹¹⁷⁵ The problem arising from this regulation is that markets are reluctant to import petroleum products and sell at the regulated price because they will not profit. The implication is that marketers are likely to withdraw from importing and selling petroleum. When marketers withdraw from selling petrol, petroleum products will be scarce, and this may cause economic stagnation.¹¹⁷⁶ To avoid scarcity of petroleum products, successive Nigerian governments subsidized petrol. The government ‘pays petrol marketers

¹¹⁶⁸ Organisation of the Petroleum Exporting Countries available at < [OPEC: Nigeria](#) > accessed 31 March 2021

¹¹⁶⁹ P Omontuemhen and McGraw, Nigeria’s Refining Revolution (PWC 2017) 1-16.

¹¹⁷⁰ A Ogbuigwe, ‘Refining in Nigeria: history, challenges and prospects’ (2018) 6 (4) Applied Petrochemical Research 181-192.

¹¹⁷¹ G Okeowo, Nigeria's Petrol Subsidy Regime Dilemma of the world's most populous black nation (BudgIT 2019) available at < http://fixouoil.com/wp-content/uploads/2019/03/Nigerias-Petrol-Subsidy-Regime_BudgIT.pdf > Accessed 11th March 2020.

¹¹⁷² M U Nwachukwu, and H Chike, ‘Fuel subsidy in Nigeria: Fact or fallacy (2011) 36(5) Energy 2796-2801. At 2797; I Okwanya, and M J Pristine, ‘An Assessment of the impact of petroleum subsidy on consumer price index in Nigeria (2015) 4 (1) Global Journal of Interdisciplinary Social Sciences., 36-39 at 36.

¹¹⁷³ M U Nwachukwu, and H Chike, ‘Fuel subsidy in Nigeria: Fact or fallacy (2011) 36(5) Energy 2796-2801. At 2797; I Okwanya, and M J Pristine, ‘An Assessment of the impact of petroleum subsidy on consumer price index in Nigeria (2015) 4 (1) Global Journal of Interdisciplinary Social Sciences., 36-39 at 36.

¹¹⁷⁴ See First Schedule of the Price Control Act of Nigeria 1977.

¹¹⁷⁵ Section 6 of the Price Control Act of Nigeria 1977.

¹¹⁷⁶ G Okeowo, Nigeria's Petrol Subsidy Regime Dilemma of the world's most populous black nation (BudgIT 2019) available at < http://fixouoil.com/wp-content/uploads/2019/03/Nigerias-Petrol-Subsidy-Regime_BudgIT.pdf > Accessed 11th March 2020.

for the difference between the regulated price of imported petrol and the expected open market price'¹¹⁷⁷ to enable citizens to buy at the regulated or cheaper price.¹¹⁷⁸ In other words, Nigeria's fuel subsidy is a consumption subsidy that requires the government to pay the marketers to sell petrol at an affordable price for the citizens.

However, there are negative sides to the government intervention on the sale of petrol through subsidy. First, government spending on the consumption of petrol far exceeds the amount spent on public sectors such as hospitals and education.¹¹⁷⁹ Between 2006 and 2018, the Nigerian government spent about ₦10 trillion (£66 billion) in petrol subsidy.¹¹⁸⁰ The implication is that other social infrastructures such as schools, roads, and most importantly, RE development which is key to fulfilling Nigeria's government obligation under the climate change regime, are given little attention.¹¹⁸¹ As rightly noted by the SE4ALL document, the Nigerian government invests huge amounts of money on fossil fuel subsidies, but incentives for RE development are very limited.¹¹⁸² Second, the subsidy scheme is not transparent, and the whole process is replete with mismanagement. For instance, between 2007 and 2014, subsidies paid to marketers increase from ₦188 billion to ₦971.1 billion (£1.2 billion to £6.4 billion), while

¹¹⁷⁷ G Okeowo, Nigeria's Petrol Subsidy Regime Dilemma of the world's most populous black nation (BudgIT 2019) available at < http://fixouroil.com/wp-content/uploads/2019/03/Nigerias-Petrol-Subsidy-Regime_BudgIT.pdf > Accessed 11th March 2020.

¹¹⁷⁸ SDN, Spotlight Issue Nigeria's Fuel Subsidy (2015) < available at <https://www.stakeholderdemocracy.org/wp-content/uploads/2015/09/SPOTLIGHT-ISSUE-NIGERIA'S-FUEL-SUBSIDY-HC.pdf> > Accessed 12 May 2019.

¹¹⁷⁹ N McCulloch and J Yang, Fuel subsidy reform and the social contract in Nigeria: A micro-economic analysis (WORKING Paper ICTD 2020) 3 ; T Alake, Nigeria Prioritizes Fuel Subsidy Over Health and Education (Bloomberg 2019) available at [Nigeria Prioritizes Fuel Subsidy Over Health, Education: Chart - Bloomberg](#) > accessed 11 May 2021.

¹¹⁸⁰ G Okeowo, Nigeria's Petrol Subsidy Regime Dilemma of the world's most populous black nation (BudgIT 2019) available at < http://fixouroil.com/wp-content/uploads/2019/03/Nigerias-Petrol-Subsidy-Regime_BudgIT.pdf > Accessed 11th March 2020.

¹¹⁸¹ H Haider, 'Climate change in Nigeria impacts and responses' Helpdesk Report (2019) at 23; Z A Elum, and A S Momodu, 'Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach (2017) 76 Renewable and Sustainable Energy Reviews, 72-80 at 77

¹¹⁸² Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) AT 57 available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

there is no evidence showing that the consumption of petrol increased within this period.¹¹⁸³

An investigation carried by the government revealed a huge amount of diverted money within this period. A committee set up by the Nigerian government to prob fuel subsidy funds unravel more than ₦232 billion (£1.5billion) overpaid to marketers for services not rendered.¹¹⁸⁴

It has been argued that no country has been able to get its citizens out of poverty through consumption fossil fuel subsidy and that the motive behind petrol subsidy is political.¹¹⁸⁵

Political parties now promise to subsidize fossil fuel to get votes from the citizens.¹¹⁸⁶ When petrol is subsidized, both the rich and the poor buy at the same price. Since both the poor and rich buy at the same price, the fuel subsidy benefits the rich more than the poor.¹¹⁸⁷ The Nigeria NDC also recognised the adverse impacts of the petrol subsidy and declare that ‘the removal of consumer and producer subsidies for fossil fuels can help stabilize government budgets...these subsidies have ended up mostly benefiting the rich.’¹¹⁸⁸

However, proponents of Nigeria's fuel subsidies believe that removing fuel subsidies would make citizens pay more for petrol.¹¹⁸⁹ That removal of subsidy should go along with palliative

¹¹⁸³ SDN, SPOTLIGHT ISSUE NIGERIA’S FUEL SUBSIDY (Stakeholder Democracy 2015) at page 14 available at < [SPOTLIGHT-ISSUE-NIGERIA’S-FUEL-SUBSIDY-HC.pdf](https://www.stakeholderdemocracy.org/SPOTLIGHT-ISSUE-NIGERIA’S-FUEL-SUBSIDY-HC.pdf) (stakeholderdemocracy.org) > accessed 10th April 2021.

¹¹⁸⁴ Ibid 14.

¹¹⁸⁵ A Citizens’ Guide to Energy Subsidies in Nigeria (Institute for Sustainable development 2012) page 7 available at < https://www.iisd.org/gsi/sites/default/files/ffs_nigeria_czguide.pdf > accessed 12 August 2020.

¹¹⁸⁶ A Citizens’ Guide to Energy Subsidies in Nigeria (Institute for Sustainable development 2012) page 7 available at < https://www.iisd.org/gsi/sites/default/files/ffs_nigeria_czguide.pdf > accessed 12 August 2020.

¹¹⁸⁷ Ministry of Finance, Republic of Indonesia, Indonesia’s Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia at 13 available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > accessed 2nd 2020.

¹¹⁸⁸ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment at 15.

¹¹⁸⁹ A Majekodunmi, ‘The political economy of fuel subsidy removal in Nigeria (2013) 2 (7) International Journal of Management and Social Sciences Research, 76-81 at 81; I Soile and B Musa-Yar’Adua, ‘The impact of gasoline subsidy removal on the transportation sector in Nigeria (2014) 2 (3) 60-66 at 60; O Akanle and O Adetayo, ‘Fuel subsidy in Nigeria: contexts of governance and social protest. International Journal of Sociology and Social Policy (2014) 34 (1) International Journal of Sociology and Social Policy 88-106 at 104; U Obo and M Coker, ‘Fuel Subsidy Removal and The Ubiquity of Hardship in Nigeria: President Buhari and Lessons from King Rehoboam (2017) 4 (14) Advances in Social Sciences Research Journal 113-126 at 124.

to cushion the effect of the removal of subsidy.¹¹⁹⁰ Presently, the Nigerian government in September 2020 announced the government's intention to remove the current fuel subsidy.¹¹⁹¹ This announcement was spurred by the dwindling price of oil price due to COVID-19 pandemic.¹¹⁹² The government claimed that it could not continue to subsidize petrol due to loss of revenue.¹¹⁹³ It is not clear whether the Nigerian government has the political will to remove its subsidy programme permanently and when it will be done, whether the government will reverse its decision of subsidy if oil revenue increases in the future. Besides, after the announcement, the Nigerian government has spent nearly \$300 Million (£219.7 million) a month in fuel subsidy.¹¹⁹⁴ In fact, the Bloomberg report put it this manner 'Nigeria's Costly Fuel Subsidies Back After Crude Price Spike'¹¹⁹⁵

This research argues that fuel subsidy reform is a legal issue since the Price Control Act of Nigeria 1977 is a legally binding Act of Parliament that regulates prices. The mere announcement by the executive government has no effect except this law is repealed or amended. This research also contends that massive deployment of RE will be drastically affected so long as the fossil fuel subsidy continues in Nigeria, and this may affect the realisation of the Nigeria climate change obligations in the coming years.

¹¹⁹⁰ M U Nwachukwu, and H Chike, 'Fuel subsidy in Nigeria: Fact or fallacy (2011) 36(5) Energy 2796-2801. At 2797.

¹¹⁹¹ Nigeria Climate Transparency Report Nigeria's Climate Action and Responses to The Covid-19 Crisis (Climate Transparency 2020) 1 available at < [Nigeria-CT-2020.pdf \(climate-transparency.org\)](#)> accessed 31st 2021.

¹¹⁹² E bala gbodgo, Oil Crash Spurs Nigeria to End Fuel Subsidies, Risk Backlash (Bloomberg 2020) available at [Oil Crash Spurs Nigeria to End Fuel Subsidies, Risk Backlash - Bloomberg > accessed 3rd March 2021.](#)

¹¹⁹³ Ibid.

¹¹⁹⁴ R Olurunbi, Nigeria Fuel Subsidy Hits Nearly \$300 Million a Month, NNPC Says (Bloomberg 2021) available at [Nigeria Fuel Subsidy Hits Nearly \\$300 Million a Month, NNPC Says - BNN Bloomberg > accessed 4th 2021](#) ; L George, Nigeria pays \$14 million for fuel in June despite subsidy removal: NNPC (Reuter 2020) available at [Nigeria pays \\$14 million for fuel in June despite subsidy removal: NNPC | Reuters > accessed 9th 2021](#) ; K Jeremiah, Nigerians pay N47.6b in four months for petrol 'subsidy'(The Guardian 2020) available at <[Nigerians pay N47.6b in four months for petrol 'subsidy'Nigeria — The Guardian Nigeria News – Nigeria and World News > accessed 3rd 2021.](#)

¹¹⁹⁵ A Osea Brown, Nigeria's Costly Fuel Subsidies Back After Crude Price Spike (Bloomberg 2021) available at [Nigeria's Costly Fuel Subsidies Back After Crude Price Spike - Bloomberg > accessed 23 March 2021.](#)

5.12 GAS FLARING AND GHG EMISSIONS IN NIGERIA

Article 6 (8) (a) of the Paris Agreement encourages all Parties, including developed and developing countries, to brace up the efforts of mitigation actions.¹¹⁹⁶ Mitigation actions are activities that employ by members ‘to reduce the sources or enhance the sinks of greenhouse gases.’¹¹⁹⁷ One of the most important targets of Nigeria’s NDC that support Article 6 (8) of the Paris Agreement is the target ‘to end gas flaring by 2030.’¹¹⁹⁸ To end gas flaring means, Multinational Oil Corporations (MOCs) involved in flaring associated gas in Nigeria must stop. Associated gas is a natural gas found in the oil wells alongside crude oil.¹¹⁹⁹ Whenever associated gas emerges with crude oil during production, the operators usually face three main options to separate it. First, re-inject the gas into an underground reservoir; second, harness the gas for domestic and commercial use; and third, dispose of the gas by flaring (burning off).¹²⁰⁰

Among these three main options, re-injecting the gas into an underground reservoir requires expensive infrastructure and machines that are very complex.¹²⁰¹ The choice to harness the gas for domestic and commercial use also requires expensive facilities and machines such as

¹¹⁹⁶Art. 6 (8) (a) 119 UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

¹¹⁹⁷R. Pichs-Madruga, Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, IPCC, 2014: Summary for Policymakers (Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA).

¹¹⁹⁸Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 2-3 and 14

¹¹⁹⁹ M Thurber M. Gas Flaring: Why does it happen and what can stop it? (2019) Sandford University 1; B Buzco-Guven and R Harriss, ‘Gas flaring and venting: extent, impacts, and remedies’ 2010 Energy Forum 1-72 at 8.

¹²⁰⁰ B Buzco-Guven and R Harriss, ‘Gas flaring and venting: extent, impacts, and remedies’ 2010 Energy Forum 1-72 at 1-9; J U Orji, ‘Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime’ (2014) 38(2) OPEC Energy Review 149-183; 150.

¹²⁰¹ J U Orji, ‘Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime’ (2014) 38(2) OPEC Energy Review 149-183; 150.

pipelines to transport the associated gas from the oil wells to processing.¹²⁰² The option of disposing of the gas by flaring is less expensive; it does not require a substantial financial burden as re-injecting the gas into an underground reservoir or capturing the gas for domestic and commercial use.¹²⁰³ It has been proven that the operators in the oil and gas industry in Nigeria mostly adopt the third option that is, flaring the associated gas because it is cheap and convenient.¹²⁰⁴ Chevron, one of the MOCs, said, ‘gas flaring would cost the company \$1 million while the cost of switching from water to gas injection would cost \$56 million.’¹²⁰⁵ It was recorded that about 17 percent of Nigeria’s total daily gas production is re-injected, while 33 percent is utilized commercially, and the remaining 50 per cent is wasted through flaring.¹²⁰⁶ A recent study shows that ‘[N]igeria flared 10.73 billion m3 of its associated gas production or 12% of its gross production;’¹²⁰⁷ Nigeria is among the top six world’s largest flaring countries.¹²⁰⁸ This means Nigeria accounts for 8% of the total amount of gas flared globally.’¹²⁰⁹ The Chart 4.1 below shows the top 30 gas flaring countries in the world.

¹²⁰² Ibid.

¹²⁰³ B Buzco-Guven and R Harriss, ‘Gas flaring and venting: extent, impacts, and remedies’ 2010 Energy Forum 1-72; 1-9; J U Orji, ‘Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime’ (2014) 38(2) OPEC Energy Review 149-183; 150.

¹²⁰⁴ Ibid.

¹²⁰⁵ J U Orji, ‘Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime’ (2014) 38(2) OPEC Energy Review 149-183; 154

¹²⁰⁶ B Buzco-Guven and R Harriss, ‘Gas flaring and venting: extent, impacts, and remedies’ 2010 Energy Forum 1-72 44.

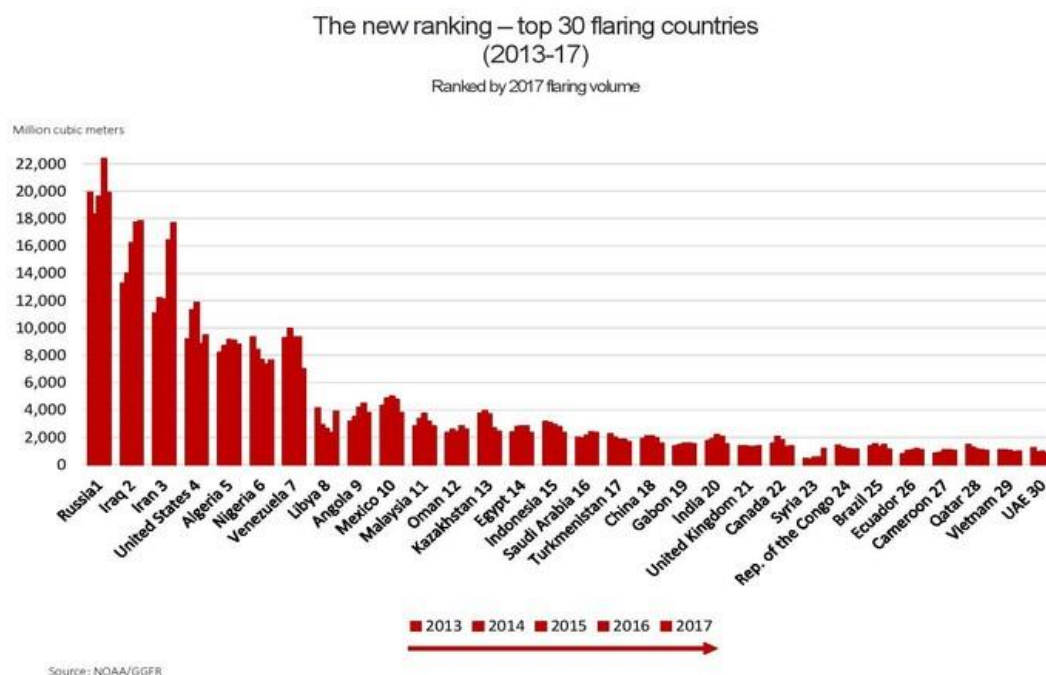
¹²⁰⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) Biennial 27-29; Energy Information Administration (EIA), Country Analysis Brief: Nigeria (2016) <https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf > accessed 5th March 2019.

¹²⁰⁸ The World Bank ‘Global Gas Flaring Reduction Partnership (GGFR)’ available <<http://www.worldbank.org/en/programs/gasflaringreduction#7> > accessed 28th April 2019

¹²⁰⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) Biennial 27-29 ; Energy Information Administration (EIA), Country Analysis Brief: Nigeria (2016) <https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf > accessed 5th March 2019.

Figure 5.1: The New Ranking of Top 30 Flaring Countries (2013-2017)

1210



Flaring of associated gas mainly emits CO₂, carbon monoxide (CO), and other pollutants.¹²¹¹ Apart from that, there are other health issues involve in gas flaring.¹²¹² The point is that CO₂ is one of the main GHGs identified by the IPCC that contributes to the warming of the global atmosphere.¹²¹³ Reducing CO₂ emission in this context implies the necessity to stop flaring associated gas, which is why one of the important targets of Nigeria’s NDC is under the Paris Agreement is centered on ending gas flaring by 2030.¹²¹⁴ The achievement of this target means

¹²¹⁰The World Bank ‘Global Gas Flaring Reduction Partnership (GGFR)’ <<http://www.worldbank.org/en/programs/gasflaringreduction#7>> accessed 25th April 2019.

¹²¹¹ B Buzco-Guven and R Harriss, ‘Gas flaring and venting: extent, impacts, and remedies’ 2010 Energy Forum 1-72; 10.

¹²¹² For instance, economic impact, health impact. A O Ajugwo, ‘Negative effects of gas flaring: The Nigerian experience (2013) 1(1) Journal of Environment Pollution and Human Health, 291 -301, 292-293.

¹²¹³Climate Change 2007: Working Group II: Impacts, Adaptation, and Vulnerability; IPCC Fourth Assessment Report: https://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch1s1-2-1.html > Accessed 25 July 2018

; B Gervet, Gas flaring emission contributes to global warming 2007 Renewable Energy Research Group, Lulea University of Technology, Lulea, Sweden.

¹²¹⁴ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 2-3 and 14.

the Nigerian government would have succeeded in reducing about 64 million tonnes of GHG per year.¹²¹⁵ The focus of the following discussion is to assess the role of the gas phase out projects and programmes initiated by the Nigerian government and the Clean Development Mechanism (CDM) role to reduce GHG emissions and achieve the NREOs.

5.12.1 THE EFFORT OF THE NIGERIAN GOVERNMENT TO PHASE OUT GAS FLARING

The Nigerian government is currently pushing for projects that will utilize natural gas to stop flaring associated gas.¹²¹⁶ This means the operators are expected to harness the gas and deploy it either in electricity generation or for other domestic use instead of burning it off.¹²¹⁷ The idea is to reduce flaring and at the same time grows the economy.¹²¹⁸ The notion of harnessing the gas to reduce emissions and grow the economy is recognised in the National Energy Policy (NEP). For instance, one of the specific objectives of NEP is ‘to expand the utilization of natural gas as an industrial and domestic fuel, as well as for power generation.’¹²¹⁹ This is also evident by the recent approval of the National Gas Policy 2017, which states that ‘the new position is that the government prefers the utilization of flared gas into markets, utilized by different downstream sectors, rather than flared or re-injected with no valid technical

¹²¹⁵Ibid.

¹²¹⁶Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) 12-14 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019 ; The Government Of The Federal Republic Of Nigeria ‘Nigeria National Gas Policy’ (2017) 61-62 available > <http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf> > accessed 15th March 2019 ; Nigerian Gas Flare Commercialization Programme < <http://www.ngfcp.gov.ng/> > accessed 13th April 2019 ; Nigeria Gas Master Plan (NGMP) 2008 ; National Domestic Gas Supply and Pricing Regulation 2007.

¹²¹⁷Ibid.

¹²¹⁸The aim of Nigeria Gas Master Plan (NGMP) 2008 ‘is to ensure natural gas is supplied at affordable prices to all domestic sectors, mainly power and other sectors that have a significant multiplier effect on the nation’s economy.’ See E. T Ukpohor, 2009, October. ‘Nigerian gas master plan: strengthening the Nigeria Gas Infrastructure Blueprint as a base for expanding the regional gas market. (2009) In World Gas Conference Technical Paper, 11.

¹²¹⁹Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) 12-14 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019.

reason.¹²²⁰ According to the government, '[i]t is the policy that gas utilization will be a priority consideration over other considerations for handling of associated gas...'.¹²²¹ The intent of the Nigerian government is to restrict undue re-injection of associated gas.¹²²² This is the rationale behind establishing the Nigerian Gas Flare Commercialisation Programme ("NGFCP"), which the Federal Executive Council approved in December 2016.¹²²³ [T]he objective of the NGFCP is to eliminate gas flaring through technically and commercially sustainable gas utilization projects developed by competent third-party investors who will be invited to participate in a competitive and transparent bid process.¹²²⁴

However, making these plans a reality is a huge challenge. For instance, the process of using the gas for domestic and power generation requires production plants, transmission, local distribution pipelines, storage tanks etc.¹²²⁵ With the international community's help, the Nigerian government initiated the Nigeria Gas Master Plan (NGMP) 2008, which is to enhance the development of gas utilisation infrastructure and encourage investments in the gas industry. A strategic objective of the NGMP is to address issues hindering the development of the domestic gas market in Nigeria to harness the domestic gas industry for national economic growth.¹²²⁶ The NGMP is centred on developing gas infrastructure pipelines that will transmit the gas.¹²²⁷ The NGMP imposes domestic gas supply obligations on the producers. This obligation is to the effect that gas producers should first supply gas that meets domestic demand before exporting gas.¹²²⁸ Also, the gas pricing policy was initiated as well. '[T]his policy aims

¹²²⁰The Government Of The Federal Republic Of Nigeria 'Nigeria National Gas Policy' (2017) 61-62 available > <http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf> > accessed 15th March 2019.

¹²²¹ Ibid.

¹²²² Ibid.

¹²²³ Nigerian Gas Flare Commercialization Programme < <http://www.ngfcp.gov.ng/> > accessed 13th April 2019.

¹²²⁴ Ibid.

¹²²⁵R Sims and van Hulle, Integration of Renewable Energy into Present and Future Energy Systems. In IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation (2011 eds), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 647.

¹²²⁶ Nigeria Gas Master Plan (NGMP) 2008.

¹²²⁷ Ibid.

¹²²⁸ Ibid.

to ensure natural gas is supplied at affordable prices to all domestic sectors, mainly power and other sectors that have a significant multiplier effect on the nation's economy.¹²²⁹ It established the minimum gas price a gas producer can be charged. To achieve this aim of the gas pricing policy, the minister of petroleum issued the National Gas Supply and Pricing Regulation 2008, which aim is to further breakdown the domestic utilisation of gas such as using the gas to generate power for citizens, use the gas to produce fertilizers, methanol and use the gas for manufacturing industries.¹²³⁰ The National Gas Supply and Pricing Regulation reemphasised the aim of the gas pricing policy and restricted producers to specifically set a certain volume of gas produced for the consumption of the domestic market.¹²³¹ The minister of energy is empowered to determine the required amount of gas needed for domestic use periodically. Failure of gas producers to meet the required volume of gas for domestic use is liable to be fined \$3.5/mcf for gas undersupply or restrict the exportation of gas as decided by the minister of energy.¹²³² The central aim of the above intervention of the Nigerian government is to reduce the flaring of associated gas by harnessing the gas for electricity generation and other uses.

5.12.2 KEY PROJECTS FOR THE PHASING OUT OF GAS FLARING

The Federal government's intervention led to the establishment of key projects by both the Nigerian government and the MOCs. Good examples are the Nigeria Liquefied Natural Gas (NLNG), the West African gas project (WAGP). The NLNG started its operation in 1999. Since then, the company has about six units (trains) to harness natural gas.¹²³³ The West African Gas Pipeline (WAGP) is a 617 km pipeline meant to transport natural gas from Nigeria to Benin,

¹²²⁹ E. T Ukpohor, 2009, October. 'Nigerian gas master plan: strengthening the Nigeria Gas Infrastructure Blueprint as a base for expanding regional gas market. (2009) In World Gas Conference Technical Paper, 11.

¹²³⁰ National Domestic Gas Supply and Pricing Regulation 2007.

¹²³¹ National Domestic Gas Supply and Pricing Regulation 2007.

¹²³² National Domestic Gas Supply and Pricing Regulation 2007.

¹²³³ Nigeria LNG < <http://nlng.com/Our-Company/Pages/Profile.aspx> > accessed 5th April 2019.

Togo, and Ghana.¹²³⁴ The World Bank said that this project would reduce 78 million tons of carbon dioxide equivalent (tCO₂e).¹²³⁵ Aside from the NLNG and the WAGP, other projects such as Escravos gas-to-liquid Projects (EGP), the OSO NGL Recovery Project are meant to convert gas to synthetic fuels.¹²³⁶

These projects and many others have contributed, first, to reduce the flaring of associated gas. This point is further elaborated on section 5.12 below. Second, through NLNG and the WAGP, Nigeria was rated the fourth world largest exporters of Liquefied Natural Gas (LNG) to Europe and African countries.¹²³⁷ According to the Nigeria National Petroleum Corporation, 62.61% of the average daily gas produced was commercialized in 2018¹²³⁸ compared to 60.89% in 2017.¹²³⁹ Few industries could be able to access natural gas.¹²⁴⁰ Not only that, but gas is also mainly used for power generation. About 80% of electricity generation in Nigeria is from natural gas (thermal).¹²⁴¹ It is plausible to say that the gas utilization projects have increased the gas market in Nigeria.¹²⁴²

¹²³⁴G I Malumfashi, 'Phase-out of gas flaring in Nigeria by 2008: The prospects of a multi-win project. Centre for Energy Petroleum and Mineral Law and Policy (CEPMLP) (2007) University of Dundee, Scotland, United Kingdom 31- 33.

¹²³⁵ H A Sharif and I B Garba, Gas Flaring: When Will Nigeria Decarbonise Its Oil and Gas Industry (2016) 1(3) International Journal of Economy, Energy and Environment, 40-54, 46.

¹²³⁶ Ibid. 40-54; C A Odumugbo, 'Natural gas utilisation in Nigeria: Challenges and opportunities (2010) 2(6) Journal of Natural Gas Science and Engineering, 2(6) 310-316 at 313

¹²³⁷ Energy Information Administration (EIA), Country Analysis Brief: Nigeria, 2016 at 15, <https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf> Accessed 9th November 2019.

¹²³⁸ NNPC Monthly report Financial and Operations Report December 2018; <<https://www.nnpcgroup.com/NNPCDocuments/Performance%20Data/FullReports/NNPC%20Monthly%20Financial%20Operations%20Report%20for%20the%20Month%20of%20December%202018.pdf>> accessed 5th May 2019.

¹²³⁹ NNPC Monthly report Financial and Operations Report December 2017 <<https://www.nnpcgroup.com/NNPCDocuments/Performance%20Data/FullReports/NNPC%20Monthly%20Financial%20Operations%20Report%20for%20the%20Month%20of%20December%202017.pdf>> accessed 5th May 2019.

¹²⁴⁰ K Ifesinachi, and E Aniche, 'The Nigerian National Petroleum Corporation (NNPC) and Enforcement of Zero Gas Flaring Regime in Nigeria (2015) 4(1), ANSU Journal of Arts and Social Sciences 13-14.

¹²⁴¹ G Occhiali and G Falchetta, (2018): 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM Milano 7.

¹²⁴² P E Agbonifo, 'Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy

5.13 THE ROLE OF CDM PROJECTS IN PHASING OUT GAS FLARING

The Kyoto Protocol adopts market-based mechanisms to enable developed countries to reach their targets. The mechanisms are the Clean Development Mechanism (CDM)¹²⁴³ and Joint Implementation (JI).¹²⁴⁴ The concern of this research is the CDM.¹²⁴⁵ It is important to note that Article 6 of the Paris Agreement also encourages market-based mechanisms like the Kyoto Protocol, but under the Paris Agreement, it is referred to as Sustainable Development Mechanism (SDM) instead of CDM.¹²⁴⁶ At the COP 25 climate change conference held in Madrid 2019, member states were not able to reach a conclusion on what method to be adopted under Article 6 of the Paris Agreement, that is, whether the SDM should be built upon the existing CDM or a different approach or mechanism should be adopted.¹²⁴⁷ Whether or not SDM will replace CDM is to be decided by the Parties, and this was expected to be finalized at the COP 26 in Glasgow 2020, but COP 26 was shifted to November 2021 due to the Covid 19 pandemic.¹²⁴⁸

The point is that the CDM programme practiced by member states under the climate change regime for the past two decades has helped the Nigerian government reduce the flaring of associated gas in the country. This is because the CDM under the Kyoto Protocol allows

Economics and Policy.442-448; 448 and 443; B Henry, 'Gas Production and Utilization in Nigeria: A Long-Term Perspective' (2019) 6 (5) international journal of engineering technology management Research 58-72 at 63.

¹²⁴³ Article 12 of the Kyoto Protocol.

¹²⁴⁴ Article 6 of the Kyoto Protocol.

¹²⁴⁵ Since the CDM relates to investment of emission reduction in developing countries while the JI involves reduction of emission in developed countries. See M.R., Singh and N Naik, 'Role of the Clean Development Mechanism (CDM) in the Development of National Energy Industries' 2014 25(2) Energy & Environment, pp.325-342.

¹²⁴⁶United Nation Climate Change, available at < <https://unfccc.int/news/cdm-can-inspire-inform-outfit-any-new-mechanism-under-paris-agreement>, Accessed 2nd March 2018 ; United Nation Climate Change, 'Achievements Of The Clean Development Mechanism Harnessing Incentive for Climate Action (2001-2018).

¹²⁴⁷International Chamber of Commerce, 'Article 6 what is it and why is it important' available at <https://iccwbo.org/media-wall/news-speeches/article-6-important/> > Accessed 3rd March 2020 ; W Obergassel and F Asche, 'Shaping the Paris mechanisms part III: an update on submissions on Article 6 of the Paris Agreement (2018) Jiko Policy Paper IV.

¹²⁴⁸ United Nations Climate Change available at < [The CDM Executive Board Agrees on Temporary Measures to Address COP26 Postponement | UNFCCC](#) > accessed 1st April 2021.

industrialised (Annex-I) countries to invest in or finance projects in developing countries by reducing emissions of GHG.¹²⁴⁹ The CDM is a tool which will help to achieve the goal—that is, reducing flaring of associated gas because the ‘CDM provides additional incentives to cut flaring by providing credits for carbon- reduction that can be sold on the emissions trading market.’¹²⁵⁰ Since 2005 when the Kyoto Protocol was adopted, the CDM has become a veritable tool that helps finance projects and provides sustainable development benefits to members.¹²⁵¹ A couple of CDM projects in Nigeria are meant to reduce the flaring of associated gas.¹²⁵²

The Department of Climate Change, the Designated National Authority for CDM in Nigeria, registered the CDM projects. Some of the registered CDM projects are related to gas flaring.¹²⁵³ For instance, the Recovery and Utilization of Associated Gas from the Obodugwa and neighbouring oil fields in Nigeria was registered in December 2012 and will end 2024. This project is meant to reduce about 288 GHG emissions.¹²⁵⁴ Recovery and marketing of gas at the Asuokpu/Umutu Marginal Field is to reduce 257 GHG.¹²⁵⁵ Recovery of associated gas at Kwale oil-gas processing plant was meant to capture and utilize associated gas previously flared. It was registered in November 2006 and was supposed to end in 2015.¹²⁵⁶ It is not clear

¹²⁴⁹M Singh and N Naik, ‘Role of the Clean Development Mechanism (CDM) in the Development of National Energy Industries’ 2014 25(2) Energy & Environment 325-342.

¹²⁵⁰W Broere, the elusive goal to stop flares 2008 Shell World.

¹²⁵¹R Spalding-Fecher and P Parks, Gas Flaring Reduction Projects Framework for Clean Development Mechanism (CDM) Baseline Methodologies Revised Printing April 2005, The World Bank.

¹²⁵² Table 3 mentioned the number of CDM projects in Nigeria.

¹²⁵³Department of Climate Change available at < <https://climatechange.gov.ng/division/mitigation/cdm/registered-cdm-projects-in-nigeria/> > Accessed 12 April 2019

¹²⁵⁴ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 121-125.

¹²⁵⁵ It was registered on the 16 Oct 2010, ending 01 May 2021.

¹²⁵⁶ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 121-125.

if the project is completed. The Pan Ocean Gas Utilization Project was registered in February in 2009 and it will end in 2020.¹²⁵⁷ This project is hoped to reduce 2627 GHG.¹²⁵⁸

These CDM projects initiated under the climate change regime assisted the Nigerian government in reducing associated gas flaring, reducing GHG emissions, and utilizing the associated gas at the domestic level. In 2008, Nigeria was ranked alongside Russia as the top two highest gas flaring countries.¹²⁵⁹

However, in 2020, it seems there is an improvement due to the programmes and the projects to reduce the flaring of associated gas.¹²⁶⁰ Nigeria has moved from being 2nd highest gas flaring country in 2008¹²⁶¹ to 6th position in 2018.¹²⁶² Nigeria did not just move from 2nd to 6th position in gas flaring; the above mentioned CDM projects have reduced about 6,967 GHG annually.¹²⁶³

However, CDM projects are not without criticisms. For instance, one of the major concerns of the CDM projects is that they do not reduce GHG emissions. ‘CDM is an offset mechanism and does not intend to reduce global GHG emissions.’¹²⁶⁴ A CDM project will reduce emissions, but other emissions will increase somewhere, known as carbon leakage.¹²⁶⁵ ‘[C]arbon leakage occurs when there is an increase in GHG emissions in one country as a result

¹²⁵⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 121-125.

¹²⁵⁸ Ibid.

¹²⁵⁹ C Elvidge and M Zhizhin, M., 2009. A fifteen-year record of global natural gas flaring derived from satellite data (2009) 2(3) *Energies* 595-622.

¹²⁶⁰ R U Onolemhemhen and A Adenikinju, ‘An evaluation of domestic gas utilization on the Nigerian economy (2017) *Journal of Economics, Management and Trade* 1-13.

¹²⁶¹ Elvidge, C., Ziskin, D., Baugh, K., Tuttle, B., Ghosh, T., Pack, D., Erwin, E. and Zhizhin, M., 2009. A fifteen-year record of global natural gas flaring derived from satellite data. *Energies*, 2(3), pp.595-622. at 607.

¹²⁶² The World Bank ‘Global Gas Flaring Reduction Partnership (GGFR)’ available ><http://www.worldbank.org/en/programs/gasflaringreduction#7> > accessed 28th April 2019.

¹²⁶³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) at 12.

¹²⁶⁴ K E Rosendahl and J Strand, ‘Carbon leakage from the clean development mechanism (2011) *The Energy Journal*, 1-33, 3.

¹²⁶⁵ Earth Journalism Network, Clean Development Mechanism < <https://earthjournalism.net/resources/clean-development-mechanism> > accessed 2nd November 2019; J Buen, CDM Criticisms: Don’t Throw the Baby out with the Bathwater (2013) 8 Fridtjof Nansen Institute Climate Policy Perspectives, 3 and 4.

of an emissions reduction by a second country with a strict climate policy.’¹²⁶⁶ Again, CDM projects are criticized globally because one of the ultimate goals of the UNFCCC, that is, assisting non-Annex 1 Party in achieving sustainable development, is far from becoming a reality. The argument is that the contribution of the CDM projects affecting the growth pattern of developing countries is little.¹²⁶⁷

A specific criticism of CDM projects in relation to Nigeria is that the CDM projects in Nigeria are not equally distributed.¹²⁶⁸ For instance, the distribution of CDM projects in Nigeria is geared towards the energy sector (oil and gas) while little attention is given to other sectors.¹²⁶⁹ Table 3.3 of the Biennial Report of Nigeria highlighted 11 CDM projects; out of the 11, about 9 of the projects are allocated to the energy sector.¹²⁷⁰ This is the reason why Pillay postulates that the ‘distribution of CDM projects by region in Nigeria is also uneven’¹²⁷¹ and they are ‘are heavily skewed in favour of greenhouse gas reductions.’¹²⁷² The implication is that other sectors such as transportation, waste, and especially the Agriculture Forrest And Other Land Use is given minimal attention. Again, CDM projects in Nigeria are yet to contribute economic and social benefits.¹²⁷³ It was contended that the contribution of CDM

¹²⁶⁶C Andrés, ‘Emissions Loophole Stays Open in EU’ (The New York Times 2014) available at <https://www.nytimes.com/2014/11/19/business/energy-environment/emissions-loophole-stays-open-in-eu.html> > Accessed 12 March 2020.

¹²⁶⁷C Voigt, ‘Is the Clean Development Mechanism Sustainable? Some Critical Aspects. (2010) 8 (2) Sustainable Development Law & Policy, 615-21 20.

¹²⁶⁸S Pillay, ‘An assessment of Clean Development Mechanism project contribution to sustainable development in Nigeria 2016 (15) 6 International Business & Economics Research Journal (IBER), 315-328 at 321.

¹²⁶⁹S Pillay, ‘An assessment of Clean Development Mechanism project contribution to sustainable development in Nigeria 2016 (15) 6 International Business & Economics Research Journal (IBER), 315-328 at 321.

¹²⁷⁰Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 133-134.

¹²⁷¹S Pillay, ‘An assessment of Clean Development Mechanism project contribution to sustainable development in Nigeria 2016 (15) 6 International Business & Economics Research Journal (IBER), 315-328 at 321.

¹²⁷²S Pillay, ‘An assessment of Clean Development Mechanism project contribution to sustainable development in Nigeria 2016 (15) 6 International Business & Economics Research Journal (IBER), 315-328 at 324.

¹²⁷³D O Akinyele and W k Seah, ‘Clean development mechanism projects for developing countries: Potential for carbon emissions mitigation and sustainable development’ In 2014 Eighteenth National Power Systems Conference (IEEE 2014) 1-6 at 4.

projects in Nigeria has not contributed to economic development as the teeming youths in Nigeria remain unemployed.¹²⁷⁴

5.14 ANALYSIS AND KEY FINDINGS OF THE CDM AND GAS UTILIZATION PROJECTS OF NIGERIA

Both the CDM and domestic gas utilization projects have helped the Nigerian government build the domestic gas market, monetize it, and move from the second largest gas flaring country to 6th within the last couple of years. This promises a good future for the Nigeria NDC gas phasing out target. However, there is little or no sign to show that the above CDM projects and the gas utilization projects have contributed to the growth of the Nigerian economy. Considering the fact that Article 4 (7) UNFCCC, states that ‘economic and social development and poverty eradication are the first and overriding priorities of the developing country Parties.’¹²⁷⁵ There is no data showing the number of people employed and out of poverty due to these projects.

Also, the utilization of gas projects initiated by the Nigerian government and the CDM projects do not reflect the reality on the ground that the Federal government of Nigeria discovered about 178 locations where associated gas is still flared across the oil producing areas.¹²⁷⁶ These flares are more than one billion standard cubic feet per day (1Bscfd).¹²⁷⁷ Again, these projects do not contribute to the reduction of overall GHG emissions in Nigeria. This brings up one of the key

¹²⁷⁴P Agbonifo, ‘The Pursuit of Climate Protection and The Uneven Global Distribution of Clean Development Mechanism (CDM) Projects: Lesson from Least Developed Countries (LDCS) (2017) 6 (1) European Journal of Sustainable Development, 139-139 at 149.

¹²⁷⁵ See also Paragraph 6 of decision 1/CP.16 of the Cancun Decision. United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1; Article 4 (1), 6 (1) and (8) UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1 accessed 13th November 2018.

¹²⁷⁶ Major Waves Energy Report < <https://majorwavesenergyreport.com/gas-flare-commercialisation-set-to-attract-3-5bn-investments-to-nigeria-fg/> > accessed 5th April 2019.

¹²⁷⁷K Ebiri, ‘Ending gas flare in 2020, another promise amid scepticism’ (The Guardian 2018) < <https://guardian.ng/saturday-magazine/cover/ending-gas-flare-in-2020-another-promise-amid-scepticism/> > accessed 23rd April 2019.

criticisms of both the CDM projects and the NLNG activities that the projects do not reduce the overall reduction of GHG emissions.¹²⁷⁸ Similarly, the NLNG was criticized because the company in the early years only uses non-associated gas, which has no significant impact on reducing the flaring of associated gas in the country.¹²⁷⁹ A similar situation is recorded in Nigeria. Nigeria's over all emission of GHG¹²⁸⁰ experience a continuous and steady increase from 1990-2015.¹²⁸¹ The emission record shows that 1990, 163.91 million tonnes (MT), 2000, 214.21 MT, 2010, 263.0 MT)¹²⁸² and 2015, 712,638 Gg CO₂-eq.¹²⁸³ This means that both the CDM and NLNG have not reflected on the overall reduction of GHG emissions in Nigeria as the country's GHG emissions grow steadily even though the CDM projects purported to have reduced 6,967 GHG annually.

5.15 CONCLUSION

This chapter has shown the relationship between the RE development obligation contained in the climate change instruments with the SDG 7 and the Nigeria NDC energy-related targets. This relationship means the achievement of the RE obligation of the climate change regime will also lead to the achievement of SDG 7 and the Nigeria NDC energy-related targets.

This chapter has also demonstrated the number of RE policies the Nigerian government has initiated; these policies are the NEP, NREEEP, NBP, REMP, and SE4ALL. All these policies

¹²⁷⁸ Streck, C., 2009. Expectations and Reality of the Clean Development Mechanism. CLIMATE FINANCE, p.67. at 68; Zhang, J. and Wang, C., 2011. Co-benefits and additionality of the clean development mechanism: An empirical analysis. *Journal of Environmental Economics and Management*, 62(2), pp.140-154. At 145; Buen, J., 2013. CDM Criticisms: Don't Throw the Baby out with the Bathwater. *Fridtjof Nansen Institute Climate Policy Perspectives*, (8). At 3; Earth Journalism Network, Clean Development Mechanism < <https://earthjournalism.net/resources/clean-development-mechanism> > accessed 2nd November 2019.

¹²⁷⁹ J U Orji, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) *OPEC Energy Review* 149-183; 156.

¹²⁸⁰ Emission calculated from all the sectors which includes energy, forest, waste, industry.

¹²⁸¹ This is the last assessed year of Nigeria government emission by the 2018 Biennial Report published in 2018.

¹²⁸² Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 17.

¹²⁸³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 8.

contain provisions that reflect the NREOs. However, the following issues were noted in the RE policies. First, NEP contains an unclean source of energy such as coal to be developed and incentivized, which is against SDG target 7:2 and Article 4(1) (c) UNFCCC. Second, there is a multiplicity of RE policies with different targets. The targets enshrined in NEP are different from NREEEP as well as REMP and the SE4ALL. Among all these policies, NREEEP 2018 targets is similar to the Nigeria NDC and its targets, and the period of implementation open till 2030 which fits into the NREOs. This makes NREEEP more preferable to other policies, and it could be used as a single document to drive RE in Nigeria. However, the targets of the Nigeria NDC are more ambitious than the targets contained in NREEEP.

This chapter explained that the targets in RE policies are not binding because MDAs issued them. Besides, the RE policies are not implemented. NEP was in existence since 2003, and there is no evidence on the ground that its objectives were fulfilled since RE is not even part of the on grid connection except hydropower.

This chapter has also shown key RE projects and programmes initiated by the Nigerian government through Federal Government Agencies. The findings above showed that the development of key RE sources such as hydro, solar, and biofuel are centralised. The implication is that state governments in Nigeria are not active in RE development. Aside from the fact that state governments are not active, most of the RE projects initiated by the Federal Government Agencies are abandoned due to lack of funds. As a result, RE projects are yet to penetrate the national grid except for hydropower. This means the Nigerian government needs to do more in RE development.

One of the obstacles for the Nigerian government to develop RE and have RE energy penetration in the national grid is the harmful petrol subsidy the government has embarked on. A huge sum of money has been channeled to fossil fuel subsidy; this has negatively affected

investment in RE energy development as well as other social programmes in Nigeria. Therefore, there is a need to remove the subsidy.

This chapter again assessed the role of gas phasing out projects and that of the CDM projects. As reported by the Biennial report 2018, these projects contributed to the reduction of about 6,967 emissions of GHG. However, these numbers have yet to reflect the overall reduction of GHG emissions in Nigeria.

CHAPTER 6

THE ROLE OF FOREST RELATED POLICIES AND PROGRAMMES IN ADDRESSING CLIMATE CHANGE IN NIGERIA

6.1 INTRODUCTION

Forests serve as a net sink or reservoir of carbon.¹²⁸⁴ The world forests stored about 296 Gt of carbon.¹²⁸⁵ However, for the past 25 years, carbon stock in the forest has been seriously declined to about 11.1Gt¹²⁸⁶ due to human activities such as agriculture, deforestation, settlements, etc. These human activities contribute to GHG emissions.¹²⁸⁷ According to the Sixth Report of the Intergovernmental Panel on Climate Change (IPCC), ‘Agriculture, Forestry and Other Land Use (AFOLU) activities accounted for around 23% of total net anthropogenic emissions of GHGs.’¹²⁸⁸

At the national level, the AFOLU sector recorded the highest GHG emissions in Nigeria.¹²⁸⁹ This sector accounts for 66.9% GHG emissions over the energy sector, which is 28.2%.¹²⁹⁰ Some of the major activities that emit GHGs in this sector in Nigeria are agriculture and

¹²⁸⁴ José Graziano da Silva, Global Forest Resources Assessment 2015 How are the world’s forests changing? (2nd edn, Food and Agriculture Organization of the United Nations 2016) 30-31 < <http://www.fao.org/3/a-i4793e.pdf> > Accessed 10th January 2020.

¹²⁸⁵ Ibid 30-31.

¹²⁸⁶ Ibid.

¹²⁸⁷ Ibid, A Bhartendu, ‘Deforestation causing global warming and climate change (2012) 10 (3) International Journal of Chemical Sciences 1731-1734 at 1732; A Ali and S Iqbal, ‘Deforestation and its impacts on climate change an overview of Pakistan (2014) 21 Papers on Global Change IGBP51-60 at 51; B Duncan, Background Analytical Study Forests and Climate Change (prepared for the fourteenth session of the United Nations Forum on Forests 2019) at 6.

¹²⁸⁸ P R Shukla J. Malley, IPCC, 2019: Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems at 10.

¹²⁸⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 8.

¹²⁹⁰ Ibid.

deforestation.¹²⁹¹ Deforestation is the ‘conversion of forest to non-forest,’¹²⁹² and this leads to emissions of GHG.¹²⁹³ There are different drivers of deforestation in Nigeria; some of the primary drivers are agricultural expansion, fuelwood extraction, uncontrolled forest fires,¹²⁹⁴ transport facility development, mining,¹²⁹⁵ and population growth.¹²⁹⁶ Among these drivers, agricultural expansion, that is, farming and grazing, is rated the major driver of deforestation.¹²⁹⁷ An examination shows that nearly 46%, that is, (71.2 million) cultivable area of land is presently used for agriculture in Nigeria.¹²⁹⁸

Fuelwood consumption is one of the major drivers of deforestation in Nigeria.¹²⁹⁹ For instance, traditional biomass such as wood, charcoal, manure, crop residues accounts for 74% of energy consumption; this meets off-grid heating and cooking needs in the rural areas.¹³⁰⁰ Record shows

¹²⁹¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 101; C Forneri and C Robledo, ‘Keeping the forest for the climate’s sake: avoiding deforestation in developing countries under the UNFCCC’ 2006 6(3) Climate Policy, pp.275-294, 277.

¹²⁹²P R Shukla and J Malley, IPCC, 2019: Annex I: Glossary [van Diemen, R. (ed.)]. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems at 810 available <https://www.ipcc.ch/site/assets/uploads/sites/4/2019/11/11_Annex-I-Glossary.pdf > Accessed 12th January 2020.

¹²⁹³P R Shukla and J Malley, IPCC, 2019: Summary for Policymakers. In: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems 54 < available at https://www.ipcc.ch/site/assets/uploads/sites/4/2019/12/02_Summary-for-Policymakers_SPM.pdf at 6 ; <http://www.fao.org/3/a-i5588e.pdf> >Accessed 12th January 2020. ; S E Hamilton and D A Friess, 2018. ‘Global carbon stocks and potential emissions due to mangrove deforestation from 2000 to 2012’ 2018 8(3) Nature Climate Change,240-244 at 242.

¹²⁹⁴ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 14.

¹²⁹⁵Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 32.

¹²⁹⁶ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006)13.

¹²⁹⁷ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 24 available <<http://mptf.undp.org/document/download/10974> > Accessed on 12 December 2019.

¹²⁹⁸J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework 2015 at 23.

¹²⁹⁹ O J Rotowa and O M Blessing, 2019. Effect of Indiscriminate Charcoal Production on Nigeria Forest Estate 20197(6) International Journal of Environmental Protection and Policy 144 at 144.

¹³⁰⁰ Energy Information Administration (EIA), Country Analysis Brief: Nigeria , 2016 at 5 ,< https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf accessed 20 December 2019; National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria < <http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

that about 115 million Nigerians, 'over 75 – 80% of Nigeria's population'¹³⁰¹ rely on traditional biomass as the main energy source.¹³⁰² Aside from emissions of GHG, the use of traditional biomass as a source of energy generates indoor pollution.¹³⁰³ Both agricultural activities, fuelwood consumption, and other activities have contributed to massive deforestation in Nigeria, which led to huge GHG emissions in the AFOLU sector.¹³⁰⁴

Nigeria's annual deforestation rate is estimated at 3.7%,¹³⁰⁵ in contrast with Bolivia, where deforestation is estimated at 0.34 percent per year,¹³⁰⁶ and Tanzania where deforestation is estimated at just 1%.¹³⁰⁷ Nigeria's deforestation rate is considered one of the highest in the world.¹³⁰⁸ This translates to mean 'Nigeria has lost more than 50% of its forest cover since 1990 and currently less than 10% of the country is forested.'¹³⁰⁹ From 2000 to 2005, the country lost 55.7% of its primary forest.¹³¹⁰ Nigeria was considered at 'extreme risk' by a risk

¹³⁰¹ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 58 and 38.

¹³⁰² Energy Information Administration (EIA), Country Analysis Brief: Nigeria , 2016 at 1 , < https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf > Accessed 12 January 2020 .

¹³⁰³ G Occhiali and G Falchetta, (2018): 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM Milano at 6.

¹³⁰⁴ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 32.

¹³⁰⁵ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions From Deforestation And Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 24 available <<http://mptf.undp.org/document/download/10974> > Accessed at 12 December 2019 ; K Madaki and A K Sayok, 2019. 'Effects of deforestation in Kurmi Local Government Area, Taraba State, Nigeria' 2019 14(1) Journal of Advanced Research in Social and Behavioural Sciences, 16-28 at 17.

¹³⁰⁶ The State of The World's Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 75 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.

¹³⁰⁷ The State of The World's Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 82 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.

¹³⁰⁸ P W Matakala, National REDD+ Framework Strategy of the Federal Republic of Nigeria (2016) ; UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions From Deforestation And Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 17 available <<http://mptf.undp.org/document/download/10974> > Accessed at 12 December 2019; R J Keenan and E Lindquist, 'Dynamics of global forest area: Results from the FAO Global Forest Resources Assessment (2015) 352 Forest Ecology and Management, 9-20 at 12.

¹³⁰⁹ P Mfon and T A Akintoye, 'Challenges of Deforestation in Nigeria and the Millennium Development Goals. 2014 (9) 2 International Journal of Environment and Bioenergy, 76-94 at 78.

¹³¹⁰ Nachmany and T Townshend, The Globe Climate Legislation Study a Review of Climate Change Legislation in 66 Countries (4th ed Globe International 2014) 420; O Saka-rasaq, 'Forest Loss in Nigeria, the Impact on Climate and People from the perspectives of illegal Forest activities and Government Negligence (Raseborg, 2019) 1.

assessment company.¹³¹¹ According to the Food Agriculture Organisation (FAO), the continuous deforestation in Nigeria could lose the remaining forest areas by 2020.¹³¹² The danger of continuous depletion of the forest areas is that it will further increase GHG emissions in the AFOLU sector.

The climate change regime recognises the role forests play in climate change mitigation and adaptation, that is, the importance of forests and land use in removing GHG from the global atmosphere.¹³¹³ That is why Article 4 (1) c of the UNFCCC mandated all Parties to reduce emissions of GHG in...agriculture, forestry sector.¹³¹⁴ Article 2 (1) (a) (iii) of the Kyoto Protocol states that member states should promote ‘sustainable forms of agriculture in light of climate change considerations.’¹³¹⁵ Similarly, Article 5 of the Paris Agreement is to the effect that member nations are obligated to ‘reducing emissions from deforestation and forest degradation.’¹³¹⁶

These obligations, Article 4 (1) (c) of the UNFCCC, Article 2 (1) (a) (iii) of the Kyoto Protocol, and Article 5 of the Paris Agreement are linked to SDG 15 key indicators such as SDG targets 15 :1,15:2, and 15:3 which are centred on halting deforestation and restore degraded forest by sustainable management. Not only that, but they are also linked to the Nigeria NDC forest-

¹³¹¹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme page 17 available <<http://mptf.undp.org/document/download/10974> > Accessed 12 December 2019

¹³¹² Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 32.

¹³¹³WBCSD, Forest Sector SDG Roadmap available page 12 https://docs.wbcsd.org/2019/07/WBCSD_Forest_Sector_SDG_Roadmap.pdf > Accessed 12 March 2020

¹³¹⁴ Article 4(1) c UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

¹³¹⁵ Article 2 (1) (a) iii Kyoto Protocol, Article 3 (3) of the UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

¹³¹⁶ Article 5 of the UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2018].

related pledges on climate-smart agriculture and reforestation,¹³¹⁷ the aim of which is to reduce emissions in the AFOLU sector.

The above emphasis of the climate change regime, SDG 15 key indicators, and the Nigeria NDC forest-related targets have put forests at the center stage in the national government's effort to address climate change.¹³¹⁸ As the FAO Report indicated, the emphasis on forests in the Paris Agreement 'has opened up new prospects for national forest policy and related actions to achieve sustainable forest management.'¹³¹⁹

Therefore, the objective of this chapter is to critically assess the role of the Nigerian forest-related laws, policies, and programmes, whether they incorporate these forest-related climate change obligations, SDG 15 key indicators, and the Nigeria forest-related NDC targets (hereinafter referred to as Nigeria Climate Change Forest Related Obligations -NCCFROs). See Table 6.1.¹³²⁰ The aim is also to assess the forest-related policies and programs and examine whether they will help the Nigerian government reduce GHG emissions in the AFOLU sector and achieve the NCCFROs in the coming years.

This chapter has two main segments. The first segment critically assesses the forest-related policies and laws, such as the Nigeria forest policy and the National Agricultural Resilience Framework, and whether these national policies incorporate the NCCROs. This segment also assesses the energy policies and the role they play in forest protection. For example, specific activities such as using a clean stove for rural communities and reducing fuelwood extraction

¹³¹⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

¹³¹⁸ Food and Agriculture of the United Nations, Sustainable Forest Management, 'Forest and Climate Change' available at < <http://www.fao.org/forestry/sfm/85291/en/> > Accessed 10th January 2020.

¹³¹⁹ Ibid.

¹³²⁰ Table 6.1 shows the linkages between climate change obligation, SDG 15 key indicators and the Nigeria NDC forest related targets.

is explored. Aside from the energy policy, the role of key indirect legislation and their contribution to forest protection and the possible realisation of the NCCFROs is assessed.

The second segment of this chapter critically analyses the forest-related programmes and projects the Nigerian government has initiated both past and present that will help the government achieve the NCCFROs. This segment critically evaluates past and present forest programmes and projects and the REDD+ readiness pilot programme in Nigeria. The contribution of these programmes to forest cover, reduction of emission, and achievement of the NCCFRO is analysed.

Table 6.1: The Linkages between CC regime, SDG 15 and NCCFROs¹³²¹

No.	Climate change regime	SDG 15	Nigeria NDC forest related target
1	Reduce emission in the forest sector Article 4(1) (c) UNFCCC Article 4 (1) (d) UNFCCC Article 5 (2) Paris Agreement	Halt deforestation and restore degraded forest SDG Targets 15.1 SDG 15 :2 SDG Target 15:3	Reforestation
2.	Afforestation and reforestation Article 2 (1) (a) (ii) Kyoto Protocol	Increase afforestation and reforestation SDG 15 target 2	-
3	Sustainable forest management practices Article 2 (1) (a) (ii) Kyoto Protocol; Article 5 (2) Paris Agreement	Implement sustainable forest management of all types of forests SDG 15 target 2	-
4	Use policy approach and positive incentives to reduce emission in AFOLU sector Article 5 (2) Paris Agreement.	Provide adequate incentives for sustainable forest management, reforestation programme SDG 15. B	-
5	Sustainable form of agriculture Article 2 (1) (a) (iii) Kyoto Protocol, Article 2 (1) (b) Paris Agreement	Ensure sustainable food production SDG 2 target 4	Climate-smart agriculture

¹³²¹The table above shows the linkages between the climate change forest related obligation with key SDG 15 targets and the Nigeria NDC forest related targets. For instance, Article 4(1) c UNFCCC, Article 5 (2) of the Paris Agreement talks about the reduction of emission from deforestation and forest degradation. This obligation is linked with SDG 15 targets 2 and 3 which emphasis is halting deforestation and restore degraded forest. This is also linked with the Nigeria NDC forest related targets which states that the country will work to achieve ‘afforestation’. The implication of this linkage is that the achievement of Article 4(1)(c) UNFCCC, Article 5 (2) of the Paris Agreement will lead to the achievement of SDG 15 target 2 and 3 and the Nigeria NDC forest related target. The same applies to most of the related obligations in the table. So, in the course of assessing these obligations against the forest policy, this research in some cases just mention Article 5 (2) of the Paris Agreement and leave out related SDG 15 target 2 and Nigeria NDC afforestation target since the meaning and aim is almost the same.

6.2 ASSESSMENT OF KEY FOREST RELATED LAWS AND POLICIES IN NIGERIA

Similar to any developing countries in the worlds, Nigeria faces various environmental challenges such as pollution, soil erosion, deforestation, etc.¹³²² The Nigerian 1999 Constitution (as amended) recognises these challenges and commits to ‘protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria.’¹³²³ In addition to the Constitution, a National Policy on the Environmental was formulated in 1989.¹³²⁴ This policy was born out of the various environmental challenges faced by the country.¹³²⁵ The National Policy on Environment was reviewed and revised in 1999. One of the most important goals of the policy is to protect and preserve biodiversity by restoring the ecosystem and increasing awareness among Nigerians, particularly linkages between the environment and sustainable development.¹³²⁶ To overcome the various environmental challenges and achieve the National Policy on Environment goals, the Nigerian government initiated other specific policies, such as the National Forest Policy 2006.¹³²⁷ Apart from the National Forest Policy, few key energy-related policies and key legislation may help the Nigerian government reduce GHG emissions in the AFOLU sector and achieve the NCCFROs. Below are the key laws and policies:

¹³²² S I Omofonmwan and G I Osa-Edoh, ‘The challenges of environmental problems in Nigeria 2008 23(1) Journal of human Ecology, pp.53-57.

¹³²³ Section 20 of the Constitution of Federal Republic of Nigeria 1999 as Amended.

¹³²⁴ ‘Review of the National Policy on the Environment 1999’ (Federal Ministry of Environment 2014) < <http://environment.gov.ng/index.php/downloads/3-environmental-policies> > Accessed 28 July 2018.

¹³²⁵ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 9-14; M Oyebo and T Morakinyo, A Preliminary Assessment of the Context for REDD in Nigeria commissioned by the Federal Ministry of Environment, the Cross-River State's Forestry Commission and UNDP (2010) 32.

¹³²⁶ Ibid, Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 9-14

¹³²⁷ Others are National Policy on Drought and Desertification 2007; Drought Preparedness Plan; National Policy on Erosion, Flood Control and Coastal Zone Management 2005; National Biodiversity Strategy and Action Plan 2015.

- Approved Forest Policy 2006¹³²⁸
- National Agricultural Resilience Framework (NARF) 2015¹³²⁹
- Key energy policies such as National Energy Policy (NEP) 2018,¹³³⁰ National Gas Policy (NGP) 2017¹³³¹ National Renewable Energy and Energy Efficiency Policy (NREEEP) 2015.¹³³²
- Key legislation indirectly regulating the forest sector, such as the Minerals and Mining Act,¹³³³ Nigerian Urban and Regional Planning Act,¹³³⁴ and the Environmental Impact Assessment Act.¹³³⁵

Take note that the above forest-related laws and policies pre-exist the Paris Agreement 2015, SDGs 2015, and the Nigeria NDC 2015. Also, the policies and the law did not directly mention synergy of climate change obligation and SDGs, however, they indirectly recognise some of the NCCFROs. The assessment of these policies below shows the recognition of the NCCFROs. Therefore, the following segments 6.2.1 and 6.2.2 assess and analyse these policies against the NCCFROs.

¹³²⁸ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006).

¹³²⁹J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Climate.pdf> > Accessed 9th December 2019.

¹³³⁰Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > accessed 1 November 2019.

¹³³¹The Government Of The Federal Republic Of Nigeria ‘Nigeria National Gas Policy’ (2017) 61-62. available > <http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf> > accessed 15th March 2019.

¹³³² National Renewable Energy and Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria < <http://admin.theiguides.org/Media/Documents/NREEE%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

¹³³³ The Minerals and Mining Act LFN 2007.

¹³³⁴ Nigerian Urban and Regional Planning Act Cap N138, 2004.

¹³³⁵ [Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 2004.

6.2.1 THE NIGERIA FOREST POLICY 2006

The current forest policy was initiated in 2006.¹³³⁶ This policy was not specifically made to achieve the NCCFROs. However, the forest policy recognises deforestation as one of the factors that will affect climate change.¹³³⁷ The forest policy recognises the need to ‘store carbon through forestry and control global warming.’¹³³⁸ The overall objective stated in the policy is to ‘achieve sustainable forest management that would ensure sustainable increases in the economic, social and environmental benefits from forests and trees for the present and future generation.’¹³³⁹ The policy acknowledges the need to build capacity at both state and local levels¹³⁴⁰ and address weak regulations and rural poverty.¹³⁴¹ The policy also emphasises the need to address the underlying causes of deforestation, desertification¹³⁴² so as to increase the national forest areas.¹³⁴³ Specifically, its objective is to ‘increase the total area under sustainable forest management to 25% of the nation’s land area.’¹³⁴⁴ Not only the policy intends to increase the forest area of Nigeria, but it also contains strategies to attain the set objectives. The strategy is to involve all stakeholders, including but not limited to the private sector, NGOs, communities by planting economic trees.¹³⁴⁵ The strategies are also to promote partnerships with all stakeholders.¹³⁴⁶ This means the forest policy recognised a decentralised structure for better management of the forest areas of Nigeria. It identified the role the Federal

¹³³⁶ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006).

¹³³⁷ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 11 and 12.

¹³³⁸ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 44 and 85.

¹³³⁹ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006)23.

¹³⁴⁰ Ibid 23.

¹³⁴¹ Ibid 23.

¹³⁴² Ibid 23.

¹³⁴³ Ibid 23.

¹³⁴⁴ Ibid 26.

¹³⁴⁵ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 27.

¹³⁴⁶ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006)24.

government, state, local government, private, communities, and farmers needed to play to achieve the policy's objectives.¹³⁴⁷ To clearly show whether the forest policy reflects the NCCFROs, the discussion below assesses the key climate change provisions against the forest policy.

- Halt deforestation and restore degraded forest (Article 4(1) (c) UNFCCC, Article 4 (1) (d) UNFCCC and SDG targets 15.1, 2 and 3
- Afforestation and reforestation (Article 2 (1) (a) ii Kyoto Protocol and SDG target 15 :2 and 3
- Sustainable forest management practices (Article 2 (1) (a) ii Kyoto Protocol; Article 5 (2) Paris Agreement and SDG target 15 :2).

6.2.1.1 ASSESSMENT OF HALTING DEFORESTATION

The forest policy reflects SDG target 15:2, which is about halting deforestation.¹³⁴⁸ To halt deforestation is to control human activities that cause deforestation. These activities are what the Nineteenth Session of the Conference of the Parties held in Warsaw called ‘drivers of deforestation and forest degradation.’¹³⁴⁹ Drivers of deforestation are unique to each country.¹³⁵⁰ In Nigeria, the drivers of deforestation include logging, forest fires, fuelwood harvesting, and lack of integration between ministries, weak forest departments at both the federal and state levels and many others.¹³⁵¹ The Nigerian forest policy contains provisions on

¹³⁴⁷ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006)20-21 and 78-82.

¹³⁴⁸ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) at 70,58 and 72.

¹³⁴⁹ See [Decision 15/CP.19](#), United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 to 23 November 2013 FCCC/CP/2013/10/Add.

¹³⁵⁰ United Nations Framework of Climate Change, REDD+ available at < <https://redd.unfccc.int/factsheets/drivers-of-deforestation.html> > Accessed 10th January 2020.

¹³⁵¹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 26 available <<http://mptf.undp.org/document/download/10974>> Accessed at 12 December 2019

dealing with these drivers of deforestation at the national level. For instance, the policy provides 'better forest fire management and ensuring effective forest fire control and prevention.'¹³⁵² The policy went a step further and provides the necessity to control illegal logging¹³⁵³ and the increased use of wood fuels in Nigeria.¹³⁵⁴ The policy also stresses capacity building, weak regulations, lack of policy support, and the need to build synergies among institutions.¹³⁵⁵ In this sense, the forest policy recognises some of the drivers of deforestation that needs to be tackled in Nigeria. This is in line with SDG target 15:2 which, talks about halting or stopping deforestation.

6.2.1.2 ASSESSMENT OF AFFORESTATION AND REFORESTATION

Assessing the provisions of the forest policy against the NCCFROs shows that some of the provisions of the forest policy reflect Article 2 (1) (a) (ii) Kyoto Protocol and the Nigeria NDC forest-related target. For instance, the forest policy mentioned the need to embark on 'afforestation and reforestation programmes.'¹³⁵⁶ '[A]fforestation means planting trees on land which was never forested while reforestation means planting trees on land which was forested before.'¹³⁵⁷ Similarly, the Kyoto Protocol¹³⁵⁸ and the Nigeria NDC forest-related target¹³⁵⁹ provide for afforestation and reforestation to enhance the sink and reservoir of GHG in the forest sector.

¹³⁵² Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 55; see also the National Environmental (Control of Bush/Forest Fire and Open Burning) Regulations, 2010.

¹³⁵³ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 70.

¹³⁵⁴ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 58.

¹³⁵⁵ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 72.

¹³⁵⁶ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 51.

¹³⁵⁷ UN REDD Programme, 'Forest Facts' available < <https://www.un-redd.org/forest-facts> > Accessed 12th January 2020.

¹³⁵⁸ Article 2 (1) a ii Kyoto Protocol.

¹³⁵⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

The forest policy also emphasises the need to increase forest cover to 25%.¹³⁶⁰ This is similar to the provision of Article 4 (1) (d) UNFCCC, which encourages all parties to promote and enhance ‘sinks and reservoirs of all greenhouse gases... including biomass, forests...’¹³⁶¹ This is also the objective of SDG target 15: 2 which is about restoring degraded forests.¹³⁶²

6.2.1.3 ASSESSMENT OF SUSTAINABLE FOREST MANAGEMENT (SFM)

The objective of the forest policy uses the concept, sustainable forest management (SFM) while managing the Nigerian forest for the present and the future generation.¹³⁶³ This is the key concept used in Article 5 (1) Paris Agreement, Article 2 (1) (a) (iii) of Kyoto Protocol¹³⁶⁴ and SDG target 15:2, which encourages member states to adopt sustainable forest management in all types of forests.¹³⁶⁵ Sustainability was originally referred to as sustainable yield.¹³⁶⁶ This was later broadened to SFM.¹³⁶⁷ The increased use of the concept SFM is traced to the 1987 Brundtland Report and the Earth Summit in 1992.¹³⁶⁸ Since then many international organisations such as International Tropical Timber Organisation (ITTO),¹³⁶⁹ the Ministerial

¹³⁶⁰ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 26.

¹³⁶¹ Article 4 (1) d UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

¹³⁶² SDG Target 15: 2 UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2018].

¹³⁶³ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006)23.

¹³⁶⁴ Kyoto protocol Article 2 (1) a ii; Article 5 (1) Paris Agreement.

¹³⁶⁵SDG 15 target 2 Ibid.

¹³⁶⁶K F Wiersum, ‘200 years of sustainability in forestry: lessons from history (1995) 19(3), Environmental management, 321-329 AT 321; H Schmutzenhofer, ‘The IUFRO position on sustainable management of tropical forests (1996) FAO Forestry Paper, 23-32.

¹³⁶⁷ K F Wiersum, ‘200 years of sustainability in forestry: lessons from history (1995) 19(3), Environmental management, 321-329 AT 321.

¹³⁶⁸J Martín-García and J J Diez, ‘Sustainable Forest Management: An Introduction and Overview (2012) Sustainable Forest Management-Current Research 4.

¹³⁶⁹The ITTO defines SFM as ‘the process of managing forest to achieve one or more clearly specified objectives of management with regard to the production of a continuous flow of desired forest products and services without undue reduction of its inherent values and future productivity and without undue undesirable effects on the physical and social environment’ see International Tropical Timber Organization ‘Sustainable Forest Management’ < https://www.itto.int/sustainable_forest_management/ > Accessed 22 March 2020.

Conference of the Protection of Forests in Europe,¹³⁷⁰ and United Nations Forum on Forests,¹³⁷¹ including the FAO,¹³⁷² defined the concept SFM. The most widely intergovernmental agreed definition of SFM is the one given by the UN General Assembly.¹³⁷³ According to the UN General Assembly, SFM is ‘a dynamic and evolving concept aims to maintain and enhance the economic, social and environmental values of all types of forests, to benefit present and future generations.’¹³⁷⁴

This research is aware of the debates regarding the scope of the use of SFM. For instance, Mette argued that SFM must meet three conditions: social, economic, and ecological needs.¹³⁷⁵ The fourth session of the United Nations Forum on Forests and the 16th session of the Committee on Forestry acknowledged seven thematic areas of SFM.¹³⁷⁶ These areas include socio-economic benefit, biodiversity, forest health and vitality, and many more.¹³⁷⁷ It is important to note that the scope of SFM is not limited to social, economic, ecological needs or the seven thematic areas highlighted by the United Nations Forum on Forests. An examination

¹³⁷⁰ proposed by the second ministerial conference for the protection of the forest: MCPFE, 1993.

¹³⁷¹United Nations Forum on Forests, UNFF-09-L-MS-219 2009 available <https://forestindustries.eu/sites/default/files/userfiles/1file/sfm-unff.PDF> > Accessed 12 March 2020.

¹³⁷² The FAO reaffirmed the definition of SFM given by the UN General Assembly see Food and Agriculture Organization of the United Nation available at < [Natural Forest Management \(fao.org\)](https://www.fao.org/nr/management/) > Accessed 12 March 2020

¹³⁷³United Nations Forum on Forests, UNFF-09-L-MS-219 2009 available <https://forestindustries.eu/sites/default/files/userfiles/1file/sfm-unff.PDF> > Accessed 12 March 2020.

¹³⁷⁴ UN General Assembly, United Nations Framework Convention on Climate Change: Resolution adopted by the General Assembly on 17 December 2007, Resolution A/RES/62/98, available at: [A/RES/62/98 - E - A/RES/62/98 -Desktop \(undocs.org\)](https://undocs.org/A/RES/62/98) [accessed 1 July 2020].

¹³⁷⁵ L Mette, Forest Managing Working Paper, Sustainable Forest management and the Ecosystem Approach: Two Concepts one goal (FAO 2003) 2; see also K Vierikko, and H Linden, H., 2008. ‘Meeting the ecological, social and economic needs of sustainable forest management at a regional scale 2008 (23) 5 Scandinavian Journal of Forest Research 431-444. E Rametsteiner, SFM indicators as tools in political and economic context: actual and potential role (eds), Criteria and indicators for sustainable forest management. (The International Union of Forestry Research Organizations Research Series, 2011) 107-130.

¹³⁷⁶See Seven thematic areas Forest Management. Monitoring Progress Towards Sustainable Forest Management, Through A Set Of Indicators Or An Index: Some Suggestions, Background paper to the 2nd Informal Inter-agency Meeting on indicators to monitor progress towards SFM and forest-related SDG indicators, New York, 29. April 2016 at 24 available at <http://www.cpfweb.org/45171-0f1e30eaf60232d28d6d6facdad8b8a53.pdf> > Accessed 10th March 2020

¹³⁷⁷See Seven thematic areas Forest Management. Monitoring Progress Towards Sustainable Forest Management, Through A Set Of Indicators Or An Index: Some Suggestions, Background paper to the 2nd Informal Inter-agency Meeting on indicators to monitor progress towards SFM and forest-related SDG indicators, New York, 29. April 2016 at 24 available at <http://www.cpfweb.org/45171-0f1e30eaf60232d28d6d6facdad8b8a53.pdf> > Accessed 10th March 2020.

of the UN General Assembly definition of SFM clearly stated that SFM is a dynamic and evolving concept, and its aim is also to maintain and enhance the *environmental* values of all types of forests.¹³⁷⁸ (Emphasis added) This means SFM is also extended to the climate change regime, especially its role in removing GHG from the atmosphere.¹³⁷⁹ This is what the FAO meant when it states that SFM ‘assist both the mitigation of, and adaptation to, climate change by maintaining and increasing forest and tree cover.’¹³⁸⁰ This is the sense in which the Fourth Assessment Report of the IPCC meant when it states that ‘a sustainable forest management strategy aimed at maintaining or increasing forest carbon stocks while producing an annual sustained yield of timber, fiber or energy from the forest.’¹³⁸¹ In this sense, SFM as a concept includes improving the forest areas for economic and social benefits as well as sequestering carbon from the global atmosphere.¹³⁸² As Baumgartner rightly notes, ‘well managed forests can positively impact biodiversity, create income to fight poverty, provide wild fruit and game to fight hunger, provide medical plants, provide fresh water for drinking and irrigation, and capture and storage carbon.’¹³⁸³

¹³⁷⁸ United Nations Forum on Forests, Report of the seventh session (24 February 2006 and 16 to 27 April 2007) E/2007/42 E/CN.18/2007/8 available at <https://www.un.org/esa/forests/wp-content/uploads/2013/09/E-2007-42-UNFF7Report.pdf> > Accessed 3rd March 2020.

¹³⁷⁹ J Martín-García and J J Diez, ‘Sustainable Forest Management: An Introduction and Overview (2012) Sustainable Forest Management-Current Research 11; O Saka-rasaq, ‘Forest Loss in Nigeria, the Impact on Climate and People from the perspectives of illegal Forest activities and Government Negligence (Raseborg, 2019) 8; W F Hyde, Limitations of Sustainable Forest Management: An Economics Perspective. In S Kant (eds) Institutions, Sustainability, and Natural Resources Sustainability, Economics, and Natural Resources (. Springer, Dordrecht 2005) 193-210 at 207.

¹³⁸⁰ Food and Agriculture of the United Nations, Sustainable Forest Management available at < <http://www.fao.org/forestry/sfm/85291/en/> > Accessed 10th January 2020; L J Nunes and N Ribeiro, ‘Forest Management and Climate Change Mitigation: A Review on Carbon Cycle Flow Models for the Sustainability of Resources. 2019 (11) 19 Sustainability 5276 at 5277; E Fee, ‘Implementing the Paris Climate Agreement: Risks and Opportunities for Sustainable Land Use. In H Ginzky and E Dooley (eds), International Yearbook of Soil Law and Policy (Spring 2018) 249-270 251; N Sasaki and L P Koh, 2016. ‘Sustainable forest management of tropical forests can reduce carbon emissions and stabilize timber production (2016) 4(50) Frontiers in Environmental Science at 1.

¹³⁸¹ WBCSD, Forest Sector SDG Roadmap available page 12 https://docs.wbcsd.org/2019/07/WBCSD_Forest_Sector_SDG_Roadmap.pdf > Accessed 12 March 2020

¹³⁸² W F Hyde, Limitations of Sustainable Forest Management: An Economics Perspective. In S Kant (eds) Institutions, Sustainability, and Natural Resources Sustainability, Economics, and Natural Resources (. Springer, Dordrecht 2005) 193-210 at 207.

¹³⁸³ R J Baumgartner, ‘Sustainable development goals and the forest sector—A complex relationship’ (2019) 10 (2) Forests at 6.

The Nigerian forest policy recognised SFM when it states that the policy will ‘contribute to food security, biodiversity conservation, and environmental services in the form of watershed protection and carbon sequestration to mitigate against global warming.’¹³⁸⁴ This is in line with Article 2 (1) (a) iii of Kyoto Protocol; Article 5 (2) Paris Agreement and SDG target 15: 2. This means the forest policy contemplates the use of SFM for economic, social, ecological, and reducing GHG emissions in the forest sector of Nigeria. The use of SFM to manage Nigeria’s forest is examined in section 6.5.

6.2.1.4 GAPS IN THE FOREST POLICY

The forest policy does not contain a time limit to achieve a 25% increase in the forest area in Nigeria.¹³⁸⁵ The plan to increase the forest area to 25% is very good since the Nigeria NDC forest-related targets that are supposed to guide the country to achieve emission reduction in the forest sector are silent about specific forest cover and emission reduction. For instance, the Nigeria NDC merely acknowledges to ‘improve climate-smart agriculture and reforestation.’¹³⁸⁶ Considering the fact that Nigeria’s forest reserve as of 2010 occupies 6% of Nigeria’s land area.¹³⁸⁷ In this sense, increasing the forest areas from 6% to 25% would increase forest sink and reduce GHG emissions. The point is that the forest policy did not state when to achieve this 25% increase in forest areas in Nigeria. Though, the Nigerian government may decide to adopt a 25% forest increase in line with the 2030 agenda. However, the argument remains that the consumption of fuelwood by Nigerians far exceeds the replenishing rate of the

¹³⁸⁴ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 20 and 44.

¹³⁸⁵ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 26.

¹³⁸⁶ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

¹³⁸⁷ ‘Nigeria Vision 20:2020’ (Federal Ministry of Budget and National Planning 2009) 83 <http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/nigeria/nigeria-vision-20-20-20.pdf> accessed 26 January 2019.

Nigeria forest,¹³⁸⁸ and as such, the realisation of a 25% forest increase which will reduce emissions in Nigeria forest is doubtful.

Another concern is Nigeria's population which is growing fast. The country's population in 2017 is about 182 million¹³⁸⁹ with a growth rate of '3.1, which is projected to double the size in 24 years.'¹³⁹⁰ The more the growth of the population, the more the demand for forest resources. According to the National Environmental, Economic and Development Study (NEEDS) 'the annual demand for fuelwood is expected to rise from 1990 level of 73.9 million m³ to 99.0 million m³ in 2030 ... About 4.5 million hectares of fuelwood plantation would have to be established in order to meet the shortfall in fuelwood supply.'¹³⁹¹

This is what the Forest policy noted when it states that the population growth trend and the deforestation level do 'not support the government policy of maintaining 20 –25% of the land area under forest cover for the well-being of the national environment.'¹³⁹² Again, there is no evidence on the ground that the forest policy is implemented to achieve the 25% forest increase in Nigeria.¹³⁹³ The lack of implementation of the forest policy is assessed in section 6.5.

¹³⁸⁸ National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria at 38 <<http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf>> accessed 12 January 2019.

¹³⁸⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 25.

¹³⁹⁰ Federal Ministry of Environment, Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 20.

¹³⁹¹ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) 'National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 18; available at , <https://unfccc.int/files/adaptation/application/pdf/nigerianeeds.pdf> > Accessed 13th February 2020.

¹³⁹² Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006)7.

¹³⁹³ O I Faleyimu and B O Agbeja, 'Constraints to forest policy implementation in the Southwest Nigeria: Causes, consequences and cure (2012) 2 (2) Resources and Environment 37-44 at 41-42.

6.2.2 NATIONAL AGRICULTURAL RESILIENCE FRAMEWORK (NARF) 2015

The NARF was initiated in 2015.¹³⁹⁴ This is because of the threat of climate change on agriculture. One of the goals of NARF is to strengthen the institutional framework that will improve resilience and adaptation to climate change in the agriculture sector.¹³⁹⁵ NARF introduces technology into the agriculture sector that will aid farmers in adapting.¹³⁹⁶ NARF's objective is also to train farmers on land and water management such as irrigation, erosion control etc.¹³⁹⁷ The reason is to increase productivity regardless of the negative effect of climate change.¹³⁹⁸ NARF also recognises one of the key drivers of deforestation, that is, agricultural expansion, which includes farming and grazing.¹³⁹⁹ NARF acknowledges the encroachment of farming activities that have resulted in the loss of 46% of the vast areas of the Nigerian land. The framework specifically states that 'expanding the area cultivated with crops and grazed by livestock is not an acceptable option since this would cause land degradation through deforestation and the overexploitation of marginal habitats.'¹⁴⁰⁰ Therefore, NARF's goal is to upscale sustainable land management as a contribution to resilience agriculture.¹⁴⁰¹ NARF as an agricultural framework is designed to regulate the agricultural sector and climate-change related issues. Section 6.2.2.1 assessed NARF against the NCCFROs.

6.2.2.1 ASSESSMENT OF NARF AGAINST NCCFROs

¹³⁹⁴J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Cliamte.pdf> > Accessed 9th December 2019.

¹³⁹⁵J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) page 6 available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Cliamte.pdf> > Accessed 9th December 2019.

¹³⁹⁶ Ibid 6.

¹³⁹⁷ Ibid 6.

¹³⁹⁸ Ibid.

¹³⁹⁹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 24 available <<http://mptf.undp.org/document/download/10974> > Accessed at 12 December 2019

¹⁴⁰⁰ Ibid 23.

¹⁴⁰¹ Ibid 23.

NARF recognises Article 2 (1) (a) (iii) Kyoto Protocol. This provision placed an obligation on member nations to ‘promote a sustainable form of agriculture.’¹⁴⁰² This is also the intention of Article 2 (1) (b) Paris Agreement and SDG target 2:4, which is about sustainable food production. NARF as a framework supports this position. For instance, the framework emphasises livestock management activities, especially the need to adopt sedentary management of livestock.¹⁴⁰³ The framework suggests that since there is a shortage of rainfall in the northern part of Nigeria, there is a need to harvest run off water during rainfall to enable crop and livestock farming.¹⁴⁰⁴ This is an adaptative method to deal with climate change.

Aside from Article 2 (1) (a) (iii) Kyoto Protocol, which promotes a sustainable form of agriculture, NARF, also recognises Climate Smart Agriculture (CSA). CSA is one of the specific targets of Nigeria NDC.¹⁴⁰⁵ The World Bank described CSA as ‘an integrated approach to managing landscapes -cropland, livestock, forests, and fisheries - that address the interlinked challenges of food security and climate change.’¹⁴⁰⁶ CSA as a concept was pushed by the FAO as a form of a sustainable form of agriculture. According to FAO, CSA aims to tackle three main objectives: ‘sustainably increasing productivity and incomes, adapting to climate change and reducing greenhouse gas emissions where possible.’¹⁴⁰⁷ This means CSA has three legs: sustainable increase, adaptation, and reduction of GHG emissions. These three objectives are what is known as ‘triple wins.’¹⁴⁰⁸

¹⁴⁰² Article 2 (1) (a) iii Kyoto Protocol

¹⁴⁰³ Ibid 33.

¹⁴⁰⁴ Ibid 72.

¹⁴⁰⁵ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

¹⁴⁰⁶ The World Bank, Climate Smart Agriculture available at <https://www.worldbank.org/en/topic/climate-smart-agriculture> > Accessed 3rd March 2020.

¹⁴⁰⁷ Food and Agriculture Organization of the United Nation ‘Climate-Smart Agriculture’ Available at < <http://www.fao.org/climate-smart-agriculture/overview/en/> > Accessed 7th January 2020.

¹⁴⁰⁸ Food and Agriculture Organization of the United Nation ‘Climate-Smart Agriculture’ Available at < <http://www.fao.org/climate-smart-agriculture/overview/en/> > Accessed 7th January 2020.

NARF as a framework recognises CSA. The Nigerian government claimed that NARF was made to achieve CSA.¹⁴⁰⁹ NARF as a framework is centered on measures to adapt to climate change, improve productivity, and reduce GHG emissions.¹⁴¹⁰ This means NARF is in line with the Nigeria NDC, which states that the government will achieve climate smart agriculture in 2030.¹⁴¹¹ If NARF is implemented, it may help the Nigerian government increase production and reduce GHG emissions in the AFOLU sector. However, NARF has not been implemented. This is further explained provided in section 6.5 ‘Key findings of the laws and programme.

Take note that this research is aware of the several opinions regarding the application of the concept CSA. Critics argued that CSA did not bring anything new rather than incorporating climate change mitigation and adaptation into a sustainable form of agriculture.¹⁴¹² Academics also pointed out that the principle of CSA places more emphasis on climate change mitigation issues such as focusing on the highest emission reduction more than improving food production and security.¹⁴¹³ That the focus on climate change issues rather than food production will not benefit small-farm holders.¹⁴¹⁴

It is important to state here that the FAO has resolved the critique of CSA on its three legs—whether it places more emphasis on mitigation of climate change or food security. The FAO

¹⁴⁰⁹ The Agriculture Promotion Policy (2016 – 2020) pages 29 and 30 available at http://nssp.ifpri.info/files/2017/12/2016-Nigeria-Agric-Sector-Policy-Roadmap_June-15-2016_Final.pdf > Accessed 25 February 2020 .

¹⁴¹⁰ See Box 1.2 The NARF’s strategic objectives at page 5 available at J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Climate.pdf> > Accessed 9th December 2019.

¹⁴¹¹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

¹⁴¹² A Nagarajan, ‘Addressing the Climate Change Debate in Agriculture (2019) 9 Review of Agrarian Studies at 129; S Alexander, ‘How Does the Meaning of Climate-Smart Agriculture Differ Among Stakeholders (2019) 7. (1) Future of Food: Journal on Food, Agriculture and Society .21-30 at 24.

¹⁴¹³ L Karlsson and J Thompson, ‘Triple wins’ or ‘triple faults? Analysing the equity implications of policy discourses on climate-smart agriculture (CSA) (2018) 45 (1) The journal of peasant studies, 50-174; F Terdoo, and O Adekola, ‘Assessing the role of climate-smart agriculture in combating climate change, desertification and improving rural livelihood in Northern Nigeria (2014) 9 (15) African journal of agricultural research, 1180-1191.

¹⁴¹⁴ L Karlsson and J Thompson, ‘Triple wins’ or ‘triple faults? Analysing the equity implications of policy discourses on climate-smart agriculture (CSA) (2018) 45 (1) The journal of peasant studies, 50-174.

pointed out that not all practices at the local level are expected to achieve ‘triple wins’ result, but the CSA and the ‘triple wins’ concept should reduce trade-offs, improve synergies, and most importantly, be considered in the course of decision making, policies or programme at both local and global levels.¹⁴¹⁵ In other words, CSA should guide the formulation of policies at the local level. As already stated above, CSA as a principle was considered in the formulation of NARF, which is why NARF states that it will improve resilience and adaptation to climate change in the agriculture sector.¹⁴¹⁶

6.2.2.2 GAPS IN NARF

There are few issues with NARF. First, NARF is yet to be implemented. This was affirmed by the Agriculture Promotion Policy (2016 – 2020).¹⁴¹⁷ The Agriculture Promotion Policy was meant to fill key gaps of Agricultural Transformation Agenda 2013 to achieve economic diversification and domestic food security.¹⁴¹⁸ According to the Agriculture Promotion Policy (2016 – 2020), NARF, 2015 is the key document that will achieve climate smart agriculture,¹⁴¹⁹ but it has not been implemented.¹⁴²⁰ The lack of implementation is evident in grazing farming activities in the Northern part of the country. Grazing is considered one of the drivers of deforestation.¹⁴²¹ This has caused many crises in the Northern part of the country

¹⁴¹⁵ Food and Agriculture Organization of the United Nation ‘Climate-Smart Agriculture’ Available at < <http://www.fao.org/climate-smart-agriculture/overview/en/> > Accessed 7th January 2020.

¹⁴¹⁶J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) page 6 available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Climate.pdf> > Accessed 9th December 2019.

¹⁴¹⁷ The Agriculture Promotion Policy (2016 – 2020) pages 29 and 30 available at http://nssp.ifpri.info/files/2017/12/2016-Nigeria-Agric-Sector-Policy-Roadmap_June-15-2016_Final.pdf > Accessed 25 February 2020.

¹⁴¹⁸Agricultural Transformation Agenda Support Program – Phase 1 (ATASP-1), Nigerian Federal Ministry Of Agriculture And Rural Development 2013) available at [agricultural transformation agenda support program - phase 1 atasp-1 - executive sesa summary.pdf](#) > Accessed 6th January 2020.

¹⁴¹⁹The Agriculture Promotion Policy (2016 – 2020) pages 29 and 30 available at http://nssp.ifpri.info/files/2017/12/2016-Nigeria-Agric-Sector-Policy-Roadmap_June-15-2016_Final.pdf > Accessed 25 February 2020.

¹⁴²⁰Ibid 29 and 30.

¹⁴²¹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions From Deforestation And Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 26 available <<http://mptf.undp.org/document/download/10974> > Accessed 12 December 2019

which, has claimed thousands of lives.¹⁴²² Grazing is an unsustainable form of farming.¹⁴²³ For instance, with the support of FAO and the concept of climate smart agriculture, small farm holders in Kenya are promoting zero grazing by planting crops they needed for the animals.¹⁴²⁴ The aim is to reduce GHG emissions from the whole farm system.¹⁴²⁵ Though NARF encouraged pastoralism and grazing reserves,¹⁴²⁶ its intention to harvest run off water to enable herders from grazing has not been implemented.¹⁴²⁷

Second, NARF omits how methane emissions could be avoided. Careful assessment of the activities that emit GHG in the AFOLU sector includes fermentation and manure management from livestock.¹⁴²⁸ This is the area that emits methane.¹⁴²⁹ The framework overlooks this area. The livestock census in 2016 shows that Nigeria ‘has 19.5 million cattle, 72.5 million goats, 41.3 million sheep, 7.1 million pigs, 28,00 camels, 145 million chickens, 11.6 million ducks, 1.2 million turkeys, and 974,499 donkeys’¹⁴³⁰ with this population of animals, methane emission is estimated to increase.¹⁴³¹ Apparently, the NARF did not provide how to avoid methane emissions in the AFOLU sector.

6.2.3 KEY ENERGY POLICIES

¹⁴²² G Odogwu, ‘Climate change and Fulani herdsmen-farmers’ clashes (Punch Newspaper 2018) > <http://punchng.com/climate-change-and-fulani-herdsmen-farmers-clashes/>> Accessed 12 March 2018.

¹⁴²³ See Annex A of Kyoto Protocol.

¹⁴²⁴ Food and Agriculture of the United Nations, Scoping study on climate-smart agriculture in Kenya Smallholder integrated crop-livestock farming systems (2015) 26 available at <http://www.fao.org/3/a-i4367e.pdf> > Accessed 12th February 2020.

¹⁴²⁵ Ibid 26.

¹⁴²⁶ J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) page 34 available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Climate.pdf> > Accessed 9th December 2019.

¹⁴²⁷ Ibid 72.

¹⁴²⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC); 98.

¹⁴²⁹ Ibid.

¹⁴³⁰ Pan African Centre for Climate Change, A Report On The Progress Of Nigeria’s Intended Nationally Determined Contribution (2017) page 6 available <http://paccpolicy.org/wp-content/uploads/2017/04/A-report-of-Nigeria-Progress-on-the-INDC.pdf> > Accessed 20 December 2019.

¹⁴³¹ Ibid.

The Nigeria household energy mix is firewood 57%, kerosene 27%, charcoal 6%, Liquefied Natural Gas 5%, electric 4%, and sawdust 2%.¹⁴³² The increased use of energy such as fuelwood, charcoal, and sawdust to meet energy consumption has a negative impact on the forest and the realisation of the NCCFROs. However, the use of alternative or clean energy such as clean stoves and Liquefied Natural Gas would positively impact forest growth and the achievement of the NCCFROs.¹⁴³³ The use of a clean stove and Liquefied Natural Gas can reduce the extraction of fuelwood and traditional biomass from the forest.¹⁴³⁴ The renewable energy policies especially, the National Renewable Energy and Energy Efficiency Policy (NREEEP),¹⁴³⁵ the National Energy Policy (NEP),¹⁴³⁶ and the National Gas Policy (NGP) 2017¹⁴³⁷ discussed in chapter 5 contain provisions that would help the Nigerian government to reduce the use of firewood in Nigeria.

6.2.3.1 NREEEP, NGP AND NEP ROLE IN ACHIEVING THE NCCFROS

NREEEP, NGP, and NEP can play a key role in reducing the use of fuelwood, traditional biomass and improving forest carbon stock in Nigeria. NEP as a policy recognises the excessive

¹⁴³² The Government Of The Federal Republic Of Nigeria ‘Nigeria National Gas Policy’ (2017) 77 available > <http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf> > accessed 15th March 2019.

¹⁴³³ Though not all clean energy would lead to a positive impact on the forest areas e.g the bioenergy may use the by-products of existing agriculture and forestry, cultivating biofuel crops can drive land-use change. Hydroelectric infrastructure, too, has severe impacts on freshwater biodiversity, including pollutants, restricted migration and habitat destruction, while local communities’ land and heritage may be lost. Large wind farms can also bring unwanted environmental consequences. See WWF Report 2018, Forests and Sustainable Development the Role of SDG 15 In Delivering the 2030 Agenda (WWF edn, 2018) 8-11 available at https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_forest_practice_report_hlpf_2018_forests_and_sustainable_development_the_role_of.pdf > Accessed 23 April 2020.

¹⁴³⁴ The Government Of The Federal Republic Of Nigeria ‘Nigeria National Gas Policy’ (2017) 74 -82 available > <http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf> > accessed 15th March 2019.

¹⁴³⁵ National Renewable Energy and Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria << <http://admin.theiguide.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019..

¹⁴³⁶ Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > Accessed 1 November 2019.

¹⁴³⁷ The Government Of The Federal Republic Of Nigeria ‘Nigeria National Gas Policy’ (2017) 61-62 available > <http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf> > accessed 15th March 2019.

use of fuelwood which causes deforestation and emissions of GHG.¹⁴³⁸ The use of fuelwood for cooking does not just deplete the forest and emissions of GHG, but it does lead to indoor pollution.¹⁴³⁹ Based on this, NEP strongly discourages the use of fuelwood in Nigeria's energy mix.¹⁴⁴⁰ To achieve this aim by removing fuelwood from the energy mix, NEP highlights a few strategies for reducing fuelwood consumption. For instance, NEP encourages technology development for alternative fuelwood consumption, establishing private and community woodlots to supply fuelwood.¹⁴⁴¹ Most importantly, NEP emphasises the development of 'appropriate efficient wood stoves in the short term.'¹⁴⁴² A similar provision is contained in the NREEEP¹⁴⁴³ and the NGP.¹⁴⁴⁴ These policies address one of the key drivers of deforestation: fuelwood consumption from the Nigerian forest. This is in line with Article 4(1) (c) of UNFCCC, Article 5 (2) Paris Agreement which encourages member states to reduce emissions of GHG in the forest sector, and SDG target 15:1, which puts emphasis on conserving the forest area.

¹⁴³⁸ Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) at page 4 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > Accessed 1 November 2019 ; O Orimoogunje, and J Asifat, 'Fuel Wood Consumption and Species Degradation in South-Western Nigeria: The Ecological Relevance (2015) 8 (1) Journal of Landscape Ecology, 56-68 at 56; S Odunwole and O Joseph, 'Implications Of Fuelwood Demand on Sustainable Forest Conservation Of the Sub-Sahara Africa (2017) 6(4) International Journal Of Scientific & Technology Research at 74 .

¹⁴³⁹G Occhiali and G Falchetta, 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM Milano at 6; K Smith, 'Health impacts of household fuelwood use in developing countries (2006) 57 (2) UNASYLVA-FAO- at 41; C Raiyani and S Kashyap, 'Characterization and problems of indoor pollution due to cooking stove smoke 1993 27 (11) Atmospheric Environment. Part A. General Topics 1643-1655 at 1643

¹⁴⁴⁰ Federal Republic of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission of Nigeria 2018) 38 < http://www.energy.gov.ng/Energy_Policies_Plan/National%20Energy%20Policy.pdf > Accessed 1 November 2019.

¹⁴⁴¹Ibid 38- 40.

¹⁴⁴²Ibid 39.

¹⁴⁴³National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved by FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria page 12-13 < <http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

¹⁴⁴⁴The Government Of The Federal Republic Of Nigeria 'Nigeria National Gas Policy' (2017) 74 -82 available > <http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf> > accessed 15th March 2019.

The reduction of the use of fuelwoods, sawdust, and charcoal in the Nigerian household energy mix implies that the rate of deforestation could reduce. Not only will deforestation reduce, but it will help the most vulnerable group on the impacts of climate change, such as women in the rural areas. Women are mostly required in the rural communities to fetch fuelwood for cooking and heating, and other activities.¹⁴⁴⁵ This is why the Nigeria NDC states that ‘women benefit most from clean, efficient cook stoves, gaining in health and in productive time where these are introduced.’¹⁴⁴⁶

However, the key issues with these proposals are; first, the NEP strategy only addresses one driver of deforestation: those who collect fuelwood for cooking and heating. Millions of people fetch different types of woods and other resources from the forest for different purposes. For instance, loggers cut woods for economic reasons, some for medical reasons, some to expand farmlands, etc. All these activities contribute to deforestation and emissions of GHG. The proposals of NEP, NREEEP, and NGP will not stop loggers who cut woods for economic benefits, farmland expansion except those who fetch wood for cooking and heating. Second, NEP encourages the use of sufficient woodstoves. As the name implies, woods are needed to fuel the stoves. The use of woodstoves is unlikely to stop deforestation.

6.2.3.2 THE USE OF LIQUEFIED PETROLEUM GAS (LPG)

Both NREEEP, NGP, and NEP propose the use of efficient cookstoves such as Liquefied Petroleum Gas (LPG) to substitute the fuelwoods, charcoal, and sawdust.¹⁴⁴⁷ LPG is considered

¹⁴⁴⁵Food and Agriculture Organization, ‘Fuel-efficient stoves are keeping women safer in Nigeria’ < <http://www.fao.org/in-action/fuel-efficient-stoves-keeping-women-safer-nigeria/en/> > Accessed 3rd of February 2020.

¹⁴⁴⁶Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 12-16.

¹⁴⁴⁷Federal Republic Of Nigeria, National Energy Policy [Draft Revised Edition (Energy Commission Of Nigeria 2018) at 14, 54, 60 ; Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) 62- 73 available

a low carbon and highly efficient fuel, and it is environment friendly than fuelwood and kerosene.¹⁴⁴⁸ That is why NREEEP, NEP, and the NGP recommend the increased use of LPG in the household energy mix in Nigeria. However, there are several challenges in the use of LPG in Nigeria. As already stated, the use of LPG is just 5% compared to kerosene 27% and wood fuel 57%.¹⁴⁴⁹ An investigation into some of the key challenges of the use of LPG in Nigeria is that the startup pack for LPG (cylinder, stoves, hoses & regulators) is expensive. Getting this equipment is 83% higher than starting with a kerosene stove and wood.¹⁴⁵⁰ Domestic production of LPG equipment is expensive due to a lack of a stable electricity supply, so most of these equipment are imported.¹⁴⁵¹ Even the imported LPG equipment is expensive due to high import duties and VAT.¹⁴⁵² On top of this, Nigerian refineries are not working properly due to lack of maintenance, and they cannot produce LPG at the national level.¹⁴⁵³ As a result, consumers have to rely on the imported LPG.¹⁴⁵⁴ This requires Nigerians to pay

https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > Accessed 6th September 2019.

¹⁴⁴⁸ M Antes and B Zotter, LP Gas: An Energy Solution for A Low Carbon World A Comparative Analysis Demonstrating The Greenhouse Gas Reduction Potential of LP Gas (world LP Gas Association) 6 Available < <https://www.wlpga.org/wp-content/uploads/2015/09/lpg-an-energy-solution-for-a-low-carbon-world.pdf> > Accessed 2nd December 2020 ; P E Agbonifo, 'Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy Economics and Policy.442-448 at 446; E Johnson, 'Substituting LP Gas for Wood: Carbon and Deforestation Impacts 2012 World LP Gas Association, Zurich pages 4-5.

¹⁴⁴⁹ [The Government Of The Federal Republic Of Nigeria 'Nigeria National Gas Policy' \(2017\) 77 available > http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf](http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf) > accessed 15th March 2019.

¹⁴⁵⁰ Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) at 63-64 available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

¹⁴⁵¹ Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) at 63-64 available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

¹⁴⁵² Federal Republic of Nigeria Sustainable Energy for All Action Agenda (Se4all-Aa) Adopted by Interenergy And Energy Efficiency (ICREEE) Ministerial Committee on Renewable (2016) at 63-64 available https://www.seforall.org/sites/default/files/NIGERIA_SE4ALL_ACTION_AGENDA_FINAL.pdf > accessed 6th September 2019.

¹⁴⁵³ P E Agbonifo, 'Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy Economics and Policy.442-448, 446.

¹⁴⁵⁴ P E Agbonifo, 'Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy Economics and Policy.442-448, 446.

international cost prices, which is very high for domestic consumers.¹⁴⁵⁵ The ‘prices of LPG locally have soared beyond the reach of average Nigerians to as much as N3, 000 (US\$18.00) for a 12.5 kg about the highest in the World.’¹⁴⁵⁶ Based on these challenges, consumers fall back on kerosene stoves and firewood, which are cheaper.¹⁴⁵⁷ These facts are known to the Nigerian government.¹⁴⁵⁸ The NGP clearly states that ‘[t]he major reason for the low consumption of LPG in Nigeria is affordability.’¹⁴⁵⁹

To solve these challenges, the NGP acknowledged the need to introduce incentives such as reducing tariffs and duties of LPG equipment.¹⁴⁶⁰ This research asserts that a commitment on the side of the Nigerian government to introduce incentives to encourage the use of LPG would reduce the use of fuelwood and charcoal. This may help the Nigerian government to achieve the NCCFROs in the coming years.

6.2.4 ASSESSMENT OF LEGISLATION INDIRECTLY REGULATING CLIMATE CHANGE

The following existing legislation, such as the Minerals and Mining Act,¹⁴⁶¹ Nigerian Urban and Regional Planning Act,¹⁴⁶² and the Environmental Impact Assessment Act,¹⁴⁶³ could help the Nigerian government reduce emissions in the forest sector and achieve the NCCFROs. These laws were not specifically enacted for the NCCFROs. For instance, the Minerals and

¹⁴⁵⁵ P E Agbonifo, ‘Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy Economics and Policy.442-448, 446.

¹⁴⁵⁶ P E Agbonifo, ‘Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy Economics and Policy.442-448, 446.

¹⁴⁵⁷ 446; E Z Tunde and R O James, ‘Hike in Pump Price: Major Doom to Nigerian Forest’ (2018) 3(2), Journal of Energy, Environmental & Chemical Engineering, 19-26 at 19.

¹⁴⁵⁸ See the 2017 Nigeria National Gas Policy’ (2017) at 80. This policy clearly states the challenges confronting the affordability of LPG in Nigeria.

¹⁴⁵⁹ [The Government Of The Federal Republic Of Nigeria ‘Nigeria National Gas Policy’ \(2017\) 80 available > http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf](http://www.petroleumindustrybill.com/wp-content/uploads/2017/06/National-Gas-Policy-Approved-By-FEC-in-June-2017.pdf) > accessed 15th March 2019.

¹⁴⁶⁰ Ibid 80.

¹⁴⁶¹ The Minerals and Mining Act LFN 2007.

¹⁴⁶² Nigerian Urban and Regional Planning Act Cap N138, 2004.

¹⁴⁶³ [Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 2004.

Mining Act is meant to regulate the exploration and exploitation of solid minerals in Nigeria.¹⁴⁶⁴ The Nigerian Urban and Regional Planning Act regulates physical and development planning in Nigeria.¹⁴⁶⁵ While the Environmental Impact Assessment Act was enacted to protect the environment from activities that are likely to have adverse impacts on the environment.¹⁴⁶⁶ Even though these laws were not specifically enacted for the NCCFROs, few provisions in these laws will help the Nigerian government achieve the NCCFROs. The discussion below assesses the key provisions in these laws and how they will help the Nigerian government to achieve the NCCFROs.

6.2.4.1 THE MINERALS AND MINING ACT

The Minerals and Mining Act supports the NCCFROs. This Act outlaws any mineral exploration and exploitation activities into sacred areas, destruction of trees, or other areas that are subject to worship.¹⁴⁶⁷ Sections 114 and 115 demand for restoration and reclamation of mined fields. Sections 70 and 71 require the conduct of Environmental Impact Assessment before the Federal government can permit mining activities.¹⁴⁶⁸ Mining activities have a negative impact on land and the environment.¹⁴⁶⁹ Under sections 70 and 71, the Federal government can only allow mining activities that will not degrade the forest. These provisions technically support Article 5 (1) Paris Agreement and SDG targets 15: 1 and 3, emphasising conserving and restoring degraded land and forest.

¹⁴⁶⁴ See section 1 and 2 of the Minerals and Mining Act LFN 2007.

¹⁴⁶⁵ See section 2 of the Nigerian Urban and Regional Planning Act Cap N138, 2004.

¹⁴⁶⁶ See section 1 of the [Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 2004.

¹⁴⁶⁷ section 98 and Section 3 (1) a-e of The Minerals and Mining Act LFN 2007.

¹⁴⁶⁸ Sections 70 (1) g and 71 (1) a and c of The Minerals and Mining Act LFN 2007.

¹⁴⁶⁹ P Mbaya, 'Land degradation due to mining: the gunda scenario' (2013) 2(12) International Journal of Geography and Geology 144-158 at 144; A O Omotehinse and B D Ako, 'The environmental implications of the exploration and exploitation of solid minerals in Nigeria with a special focus on Tin in Jos and Coal in Enugu (2019) 18 (1) Journal of Sustainable Mining 18-24 at 18.

However, mining is one of the drivers of deforestation in Nigeria.¹⁴⁷⁰ Some provisions of the Act further deepen deforestation. For instance, section 22 of the Mining and Mineral Act empowers mining activities over statutory or customary ownership of land. What this means is that the Federal government, through the state government, can revoke the right of any holder of land, either statutory or customary right of occupancy for mining activities. This is made possible by the Land Use Act (LUA).¹⁴⁷¹ The LUA vests all lands to the Governors of each state.¹⁴⁷² By virtue of section 28 of the LUA, a state governor can revoke any exiting interest relating to land for public interest.¹⁴⁷³ The implication is that if minerals are found in any forest areas,¹⁴⁷⁴ the Nigerian government may revoke any statutory or customary right of occupancy for mining activities. This may negatively affect the NCCFROs.

6.2.4.2 THE ENVIRONMENTAL IMPACT ASSESSMENT ACT

One important Act that supports the NCCFROs is the Environmental Impact Assessment Act (EIA).¹⁴⁷⁵ The Act requires certain projects to be subjected to Environmental Impact Assessment, either public or private if they are likely to affect the environment significantly.¹⁴⁷⁶ There are nineteen mandatory activities that require EIA. Out of these nineteen activities, they are some specific activities that are considered drivers of deforestation. For instance, agricultural activities that cover an area of 500 hectares or more, logging activities, mining, construction, and housing.¹⁴⁷⁷ All these activities require EIA, and this brings it to term with SDG target 15: 2, which is about halting deforestation. The Act also directed that projects that

¹⁴⁷⁰ S H Wimbush, 'Afforestation of Restored Tin-Mining Land in Nigeria (1963) 42 (113) The Commonwealth Forestry Review 255-262.

¹⁴⁷¹ Section 1 of the Land Use Act -CAP.L4 L.F.N.2004.

¹⁴⁷² Section 1 of the Land Use Act -CAP.L4 L.F.N.2004; ME Nwocha, 'Impact of the Nigerian Land Use Act on Economic Development in the Country (2016) 8 (2) Acta Universitatis Danubius. Administratio, 117-128; K G. Kingston and M Oke-Chinda, 'The Nigerian land use act: A curse or a blessing to the Anglican Church and the Ikwere ethnic people of Rivers State. (2016) 6(1) African Journal of Law and Criminology, 1-12.

¹⁴⁷³Section 28 Land Use Act -CAP.L4 L.F.N.2004; Savannah Bank Ltd v. Ajilo (1987)1 NWLR (pt. 413)

¹⁴⁷⁴ By virtue of section 1 of Mineral and Mining Act, the Federal Government has the exclusive right to mining

¹⁴⁷⁵[Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 2004

¹⁴⁷⁶ Section 2 (2) [Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 2004.

¹⁴⁷⁷Schedule of the [Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 2004.

are likely to affect the environment should be published and notified the public even if ‘no interested person or group requested for the report.’¹⁴⁷⁸

Though, this research acknowledges the importance of EIA in the protection of forest areas. This research is aware of the inadequacies of EIA to protect the environment in different developing countries.¹⁴⁷⁹ For instance, the rigorous assessment takes time, so most EIA processes in developing countries are limited to quick and dry assessment to save money,¹⁴⁸⁰ thereby not identifying severe harm to the environment. .¹⁴⁸¹ Also, EIA processes in developing countries most times lack proper consultation and participation by the citizens.¹⁴⁸² They are not monitored¹⁴⁸³ and sometimes not implemented.¹⁴⁸⁴

Some issues with the EIA process in Nigeria are that an EIA is conducted after a project has already been started, so the process is just a mere formality.¹⁴⁸⁵ Aside from this, the general public is not properly informed regarding EIA process in Nigeria. Hence, public participation is an issue.¹⁴⁸⁶ Again, section 7 of the EIA states that ‘before the Agency gives a decision on

¹⁴⁷⁸Section 9(3) [Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 200.4

¹⁴⁷⁹ C Wood, Environmental impact assessment in developing countries. *International Development Planning Review* (2003) 25(3) Liverpool university press at 301-322.

¹⁴⁸⁰J Boyle, Cultural influences on implementing environmental impact assessment: insights from Thailand, Indonesia, and Malaysia. *Environmental Impact Assessment Review*, (1998) 18(2) 95-116; A Donnelly, A Directory of Impact Assessment Guidelines, (2nd edn., London, International Institute for Environment and Development 1998).

¹⁴⁸¹B N Lohani, and S L Tu, 1997. *Environmental impact assessment for developing countries in Asia* (1997) 1 Volume 1-overview.

¹⁴⁸²N Lee, Integrating Appraisals and Decision-making. *Environmental Assessment in Developing and Transitional Countries: Principles, Methods and Practice*. (2000) 27 at Wiley Online Library 161-75.

¹⁴⁸³J O Kakonge, ‘Environmental impact assessment in Africa. *Handbook of environmental impact assessment*, 1999 (2) 168-181 ; William Laurance and David Salt, *Environmental impact assessments aren't protecting the environment* (2018) COSMOS available at [Environmental impact assessments aren't protecting the environment - Cosmos Magazine](#) > accessed 17th February 2021.

¹⁴⁸⁴B Ahmad and C Wood, A comparative evaluation of the EIA systems in Egypt, Turkey and Tunisia. *Environmental impact assessment review* (2002) 22(3) Elsevier 213-234.

¹⁴⁸⁵C O Nwoko, ‘Evaluation of environmental impact assessment system in Nigeria (2013) 2 91) *Greener Journal of Environmental Management and Public Safet*, 022-031 at 27.

¹⁴⁸⁶ C O Nwoko, ‘Evaluation of environmental impact assessment system in Nigeria (2013) 2 91) *Greener Journal of Environmental Management and Public Safet*, 022-031 at 28 ; A Silas, ‘Public participation in environmental impact assessment (EIA) reports: The Nigerian Experience (2013) In *International Association for Impact Assessment (IAIA) 2013 Conference Proceedings* at 1-5 ; I Hakeem, ‘Public Participation In Environmental Impact Assessment In Nigeria: Prospects And Problems (2015) 13 *Nigerian Juridical Review* at 83. See section 3.3.6 Public Participation.

an activity the Agency shall give an opportunity to members of the public....'.¹⁴⁸⁷ The process of the public to participate in an environmental impact assessment is a right, not an opportunity.¹⁴⁸⁸ The language of the above section implies that it makes public participation in environmental assessment activities subject to the discretion of the authority. Also, the EIA gives a participatory opportunity to the public but do not give the right to individual or NGOs to review process in court.¹⁴⁸⁹ In contrast, international best practice shows that EIA should include provisions on the right to access information,¹⁴⁹⁰ the right to participate,¹⁴⁹¹ and the right to review.¹⁴⁹² The Nigeria EIA is silent on the right to review, and it may affect the NCCFROs.¹⁴⁹³

6.2.4.3 NIGERIAN URBAN AND REGIONAL PLANNING ACT

The Nigerian Urban and Regional Planning Act¹⁴⁹⁴ also has a role to play in better management of forest areas to reduce emissions. Section 30 requires a building plan by a registered architect before starting any building project. Section 31 ensures that any land development plan must show that it will not be harmful to the environment. Section 72 mandates the preservation of

¹⁴⁸⁷ Emphasis added.

¹⁴⁸⁸ Guidelines for the development of national legislation on access to information, public participation and access to justice in environmental matters' (United Nations Environmental Programme 2010) <http://www.unep.org/civil-society/Portals/24105/documents/Guidelines/GUIDELINES_TO_ACCESS_TO_ENV_INFO_2.pdf> assessed 8 March 2020.

¹⁴⁸⁹ Sections 7 and 8 [Environmental Impact Assessment Act](#) - CAP. E12 L.F.N. 2004.

¹⁴⁹⁰ Guidelines for the development of national legislation on access to information, public participation and access to Justice in environmental matters' (United Nations Environmental Programme 2010) <http://www.unep.org/civil-society/Portals/24105/documents/Guidelines/GUIDELINES_TO_ACCESS_TO_ENV_INFO_2.pdf> Assessed 8 September 2019; see Guideline 1.

¹⁴⁹¹ Ibid Guideline 8.

¹⁴⁹² Ibid Guideline 15, 16, 17 and 18; Hussein Abaza, Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach (UNEP 2004); UNEP, putting Rio principle 10 into action An Implementation Guide (UNEP 2015).

¹⁴⁹³ See the case of *Douglas V Shell* Unreported Suit No.FHC/L/CS/573/96. Here the plaintiff sued Nigeria National Petroleum Corporation (NNPC), Shell Petroleum Development Corporation (SPDC), Mobil, the Nigerian Liquefied Natural Gas (NLNG) and the Attorney General of the Federation (AGF) contending that a project jointly executed by these companies (Defendants) did not comply with the EIA Act. The Federal High Court held that there is no direct injury caused by the project to the plaintiff.

¹⁴⁹⁴ Nigerian Urban and Regional Planning Act Cap N138, 2004.

the environment by planting trees and other environmental conservation practices. These provisions could control construction activities that may likely deplete the forest areas. This may also positively impact the NCCFROs.

6.2.4.4 KEY FINDING OF THE LAWS INDIRECTLY REGULATING CLIMATE CHANGE

The above discussed legislation long existed before the Paris Agreement and SDG 15 in 2015. For instance, the EIA was originally enacted in 1992¹⁴⁹⁵ before it was updated in 2004. The Nigerian Urban and Regional Planning Act was enacted as far back as 1992.¹⁴⁹⁶ In fact, the birth of the Nigerian Urban and Regional Planning Act is an update of the Town and Country Planning Law of 1946.¹⁴⁹⁷ The point is that these laws were not deliberately enacted to achieve the NCCFROs, but the provisions highlighted above could help the Nigerian government manage forests and reduce GHG emissions in the forest sector.

6.3 ASSESSMENT OF THE FOREST RELATED PROGRAMMES AND PROJECTS

This segment assesses the programmes and projects the Nigerian government set up to improve forest cover, which may reduce emissions in the AFOLU sector. This segment assesses what the Nigerian government has done and is doing now that will support the NCCFROs.

¹⁴⁹⁵See Environmental Impact Assessment Decree 1992; see also A B Nabegu and A Naibbi, 'Environmental regulations in Nigeria: A mini review (2017) 1 (5) International Journal of Environmental Sciences and Natural Resources 4-6.

¹⁴⁹⁶ Urban and Regional Planning (Decree No. 88, 1992); See O Aluko, 'Functionality of the town planning authorities in effecting Urban and Regional Planning laws and control in Nigeria: The Case of Lagos State (2011) 5 (6) African Research Review, 156-171.

¹⁴⁹⁷O Aluko, 'Functionality of the town planning authorities in effecting Urban and Regional Planning laws and control in Nigeria: The Case of Lagos State (2011) 5 (6) African Research Review, 156-171 at 161; AA Utuama, *Critical issues in Nigerian property law* (Malthouse Press 2016) at 226.

6.3.1 THE PRESIDENTIAL INITIATIVES ON AFFORESTATION PROGRAMME (2009)

One of the programmes initiated by the Nigerian government is the Presidential Initiatives on Afforestation Programme, 2009.¹⁴⁹⁸ This programme was a five-year programme to develop and increase the national forest estate from 6% to 25% of the entire land mass of Nigeria. The Federal government of Nigeria purportedly approved 60% of the Ecological for financing this programme.¹⁴⁹⁹ However, this programme did not continue after the first two years due to a lack of funding.¹⁵⁰⁰ Aside from this programme, there are other programmes initiated by the Nigerian government, such as the Tropical Forests Action Programme 1990, the Nigerian Forestry Action Programme 1990, the Inter-Ministerial Committee on Desertification and Deforestation Programme, the National Council on Shelterbelt 2004.¹⁵⁰¹ There is no evidence on the ground that these programmes were successful. The UN REDD+ readiness document refers to these programmes as part of the Nigerian government's attempts to improve Nigeria's forest that did not yield results.¹⁵⁰²

6.3.2 THE GREAT GREEN WALL

¹⁴⁹⁸M Oyebo and T Morakinyo, A Preliminary Assessment of the Context for REDD in Nigeria commissioned by the Federal Ministry of Environment, the Cross-River State's Forestry Commission and UNDP (2010) 37-38.

¹⁴⁹⁹ Federal Republic of Nigeria, National Biodiversity Strategy and Action Plan 2016-2020, 28.

¹⁵⁰⁰ Federal Republic of Nigeria, National Biodiversity Strategy and Action Plan 2016-2020, 28.

¹⁵⁰¹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 22 available <<http://mptf.undp.org/document/download/10974>> Accessed on 12th December 2019.

¹⁵⁰² UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 22 available <<http://mptf.undp.org/document/download/10974>> Accessed 12th December 2019.

The Great Green Wall (GGW)¹⁵⁰³ was initiated by the Community of Sahel and Sahara States.¹⁵⁰⁴ The GGW was funded by the European Union and it has been implemented by the FAO.¹⁵⁰⁵ The GGW resulted from the various impacts of climate change such as continuous shortages of rainfall, drought, and human activities like bush burning and overgrazing, which has disrupted great ecological balances, degradation of natural resources, and fall in agricultural production.¹⁵⁰⁶ These issues led leaders of the affected countries, including Nigeria, to adopt GGW in 2005 to fight drought.¹⁵⁰⁷ According to the GGW programme, ‘by 2030, the Wall aims to restore 100 million hectares of currently degraded land, sequester 250 million tonnes of carbon and create 10 million jobs in rural areas.’¹⁵⁰⁸

The Nigerian government joined the programme in 2010, intending to plant ‘40 million trees annually in the next 10 years in the most affected areas...’.¹⁵⁰⁹ The Nigerian government in 2012 prepared a strategic plan to implement GGW.¹⁵¹⁰ Aside from the strategic plan, the Nigerian Parliament enacted an Act in 2015,¹⁵¹¹ which aims to implement the GGW.¹⁵¹² The agency created to implement the GGW in Nigeria states that from 2013 to 2016, the agency has succeeded in carrying out awareness campaigns, 135 ha community woodlots, 92

¹⁵⁰³ ‘The Great Green Wall’ < <http://www.greatgreenwall.org/about-great-green-wall/> > accessed 12 December 28, 2018.

¹⁵⁰⁴ includes Burkina Faso, Mali, Mauritania, Niger, Nigeria, Senegal, Chad, Sudan, Ethiopia, Eritrea and Djibouti : see ‘The Great Green Wall Initiative’ available at > <https://www.unccd.int/actions/great-green-wall-initiative> > accessed 29 December 2018; Today more than 20 countries across Africa have joined The Great Green Wall’ History < <https://www.greatgreenwall.org/history> > Accessed 19th January 2020.

¹⁵⁰⁵ Final Report of First Project steering committee meeting 26 – 27 September 2011, Addis Ababa, Ethiopia at 4 available at <http://www.fao.org/3/a-ax344e.pdf> > Accessed 20 June 2020.

¹⁵⁰⁶ A Maisharou, ‘The Great Green Wall of Sahara and Sahel Initiative, Climate Change and Gender Issue’ (2014) 2(2) a platform for stakeholders in African forestry 1-34.

¹⁵⁰⁷ ‘The Great Green Wall’ < <http://www.greatgreenwall.org/about-great-green-wall/> > accessed 12 December 28, 2018 ; A Maisharou, ‘The Great Green Wall of Sahara And Sahel Initiative, Climate Change and Gender Issue’ (2014) 2(2) a platform for stakeholders in African forestry 1-34, 3.

¹⁵⁰⁸ ‘The Great Green Wall’ < <https://www.greatgreenwall.org/2030ambition> or <https://www.unccd.int/actions/great-green-wall-initiative> > accessed 12 December 28, 2018 ;

¹⁵⁰⁹ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 10.

¹⁵¹⁰ Great Green Wall for the Sahara and Sahel Initiative (2010) National Strategic Plan, Federal Republic of Nigeria Ministry of Environment 1-65 available at < <http://www.fao.org/3/a-av139e.pdf> > Accessed 2nd January 2020.

¹⁵¹¹ National Agency for the Great Green Wall (Establishment) Act, 2015.

¹⁵¹² section 6 Ibid.

community tree nurseries, 415km shelterbelt, and 235 ha community orchards were established.¹⁵¹³ The GGW is considered an adaptation programme¹⁵¹⁴ with an overarching aim to enhance the landscape of Nigeria.¹⁵¹⁵

There are concerns regarding the GGW programme. An investigation of one of the front-line states, Kaduna, shows some serious concerns. For instance, a barricaded garden that was meant to raise about 76,000 assorted seedlings located in Kaduna, Northern Nigeria, was converted to farming.¹⁵¹⁶ There was no sign that the garden was meant to raise seedlings for GGW as the company contracted to raise the seedling disappeared and the entire area is now used for activities relating to crop farming.¹⁵¹⁷ In another location of the same state, it was discovered that few trees were planted, and deep gullies threatened them, and this condition was worsened by a construction company that excavates the soil near the planted trees.¹⁵¹⁸ Aside from this, funding is an issue.¹⁵¹⁹ The Act that domesticates GGW provides 15% revenue from the Ecological Fund of Nigeria¹⁵²⁰ to the Agency for its programmes in the country.¹⁵²¹ It is not clear if this fund is always made available to the agency.¹⁵²²

¹⁵¹³Great Green Wall, < <http://www.fao.org/3/a-be714e.pdf> <https://www.greatgreenwall.org/results> > Accessed 5th January 2020.

¹⁵¹⁴D O'Connor and J Ford, 'Increasing the effectiveness of the "Great Green Wall" as an adaptation to the effects of climate change and desertification in the Sahel 2014 (6) 10 Sustainability, 7142-7154 at 7143.

¹⁵¹⁵C M Onuoha, 'Climate change and sustainable development in Nigeria: The mitigating role of green wall Sahara Nigeria programme' in Enugu Forum Policy Paper 10 (eds) Implications of Climate Change for Economic Growth and Sustainable Development in Nigeria (Enugu Forum Policy Paper 10 2011) 33.

¹⁵¹⁶O Adanikin, 'Investigation: Failed contracts, lack of community ownership mar multi-billion Naira Great Green Wall project' (International Centre for investigation Reporting 2019) <<https://www.icirnigeria.org/investigation-failed-contracts-lack-of-community-ownership-mars-multi-billion-naira-great-green-wall-project/>> Accessed 7th December 2019.

¹⁵¹⁷Ibid.

¹⁵¹⁸Ibid.

¹⁵¹⁹L Hazmat, Great Green Wall: Key to Nigeria Greatness (2019) available at <https://www.connecteddevelopment.org/great-green-wall-key-to-nigerias-greatness/> > Accessed 21 June 2020.

¹⁵²⁰The Ecological Fund was established in 1981 by the Federation Account Act 1981. This Act encouraged the Nigerian government to create an emergency funds (at least 1% from the federation account) to deal with various ecological challenges across the country.

¹⁵²¹Section 12 (1) (b) [National Agency for the Great Green Wall \(Establishment\) Act, 2015](#).

¹⁵²²L Hazmat, Great Green Wall: Key to Nigeria Greatness (2019) available at <https://www.connecteddevelopment.org/great-green-wall-key-to-nigerias-greatness/> > Accessed 21 June 2020

6.3.3 THE GREEN BOND PROJECT OF NIGERIA

Green bonds are also known as climate bonds. They are created to fund projects that have positive impacts on the environment or climate.¹⁵²³ The aim is to encourage international investors to support national governments to invest in clean projects that will lead to a low carbon pathway.¹⁵²⁴

It is important to note that there are few concerns expressed about the use of green bonds at the national level. First is the question of defining ‘greenness.’¹⁵²⁵ It was argued that there is no precise and commonly shared objective of the green bond market.¹⁵²⁶ This made issuers of green bond use proceeds to finance large hydro power with environmental concerns. Some NGOs pointed out that this definitional problem could lead issuers to finance controversial nuclear power as low carbon energy.¹⁵²⁷ Second is the “high cost of meeting green bond requirements,” “lack of targeted incentives for green bond issuers,” “difficulties for international investors to access local green bond markets,” and many more.¹⁵²⁸ Despite these concerns, green bond is considered one of the critical aspects of meeting the Paris Agreement because green bonds facilitate and help increase sustainable infrastructures from institutional

¹⁵²³ See Climate Bond Initiative available at < [Explaining green bonds | Climate Bonds Initiative](#) > accessed 20th March 2021.

¹⁵²⁴ Climate Bonds Initiative, Green Bonds The State Of The Market 2018, at 2 Available at < https://www.climatebonds.net/files/reports/cbi_gbm_final_032019_web.pdf > Accessed 2nd April 2020

¹⁵²⁵ I Shishlov and I Cochran, ‘Beyond transparency: unlocking the full potential of green bonds (Institute for Climate Economics 2016) 1-28.

¹⁵²⁶ Friends of the Earth, Issue Brief: Green Bonds (2015) available at [green_bonds_fact_sheet.pdf \(banktrack.org\)](#) > assessed 17th February 2021.

¹⁵²⁷ Friends of the Earth, Issue Brief: Green Bonds (2015) available at [green_bonds_fact_sheet.pdf \(banktrack.org\)](#) > assessed 17th February 2021.

¹⁵²⁸ M Jun and N Pfaff, Green bonds: Country experiences, barriers and options (the G20 Green Finance Study Group 2016) at http://unepinquiry.org/wp-content/uploads/2016/09/6_Green_Bonds_Country_Experiences_Barriers_and_Options.pdf Accessed 12 March 2020 ; J Banga, ‘ The green bond market: a potential source of climate finance for developing countries (2019) 9 Journal of Sustainable Finance & Investment 25-27 ;I Shishlov and I Cochran, ‘Beyond transparency: unlocking the full potential of green bonds (Institute for Climate Economics 2016) 1-28.

investors.¹⁵²⁹ In this sense, many countries, including Nigeria, have embraced green bonds to finance climate change projects at the national level.¹⁵³⁰

The Nigerian government commenced its first green bond climate change programme in December 2017,¹⁵³¹ spanning a five-year period. In June 2019, the Nigerian government announced the second bond,¹⁵³² which is to cover seven years.¹⁵³³ The bond was intended to achieve the Nigeria NDC,¹⁵³⁴ which is why the bond empowers two major sectors, renewable energy, and the afforestation programme.¹⁵³⁵ Regarding afforestation, the Nigerian government states that the programme would be implemented across 25 selected states, and it will cover about 841.6 hectares of land areas.¹⁵³⁶ Nigeria's green bond programme is new, and there is no sufficient information from the Ministry of Environment that is implementing the programme.¹⁵³⁷ However, a critical survey of Nigeria's green bond unveils that the amount of Nigeria's green bond appears small compared with other countries. For instance, the 2019

¹⁵²⁹ A Maltais and B Nykvist, 'Understanding the role of green bonds in advancing sustainability (2020). Journal of Sustainable Finance & Investment, pp.1-20 at 4; K Forsbacka, Climate Finance and the Point of Green Bonds (Doctoral dissertation, Luleå University of Technology 2021) 7; C Anh Tu and E Rasoulnezhad, 'Factors Influencing the Green Bond Market Expansion: Evidence from a Multi-Dimensional Analysis (2020) 13(6) Journal of Risk and Financial Management, 126.

¹⁵³⁰ N Ngwenya and M D Simatele, 'The emergence of green bonds as an integral component of climate finance in South Africa (2020) 116(1-2) South African Journal of Science, 1-3; S Agarwal and T Singh, 'Unlocking the green bond potential in India (The Energy Resources Institute 2018) at 7; N Ngwenya and D Mulala, 'Unbundling of the green bond market in the economic hubs of Africa: Case study of Kenya, Nigeria and South Africa, (2020) Routledge at 1.

¹⁵³¹ Federal Government of Nigeria, Pursuant to the Local Loans (Registered Stock and Securities) Act, CAP. L17, LFN 2004, (2019) 29; United Nation Environment Programme, Nigeria First African Nation to Issue Sovereign Green Bond available at <http://unepinquiry.org/news/nigeria-first-african-nation-to-issue-sovereign-green-bond/> > Accessed 12 March 2020.

¹⁵³² Thomson Reuter Foundation News available at < <https://news.trust.org/item/20190527113641-a3su0> > Accessed 12 March 2020.

¹⁵³³ Debt Management Office Nigeria available at < <https://www.dmo.gov.ng/fgn-bonds/green-bond> > Accessed 12 March 2020.

¹⁵³⁴ Federal Government of Nigeria, Pursuant to the Local Loans (Registered Stock and Securities) Act, CAP. L17, LFN 2004, (2019) 17.

¹⁵³⁵ Ibid 29.

¹⁵³⁶ Federal Government of Nigeria, Pursuant to the Local Loans (Registered Stock and Securities) Act, CAP. L17, LFN 2004, (2019) 32.

¹⁵³⁷ The Federal Ministry of Environment of the Republic of Nigeria, Green Bond Framework 28 May 2017, 3.

Nigeria's green bond covering seven years¹⁵³⁸ is ₦15 billion (\$49million) (£36 million).¹⁵³⁹ This amount is low compared with other developing countries that have issued green bonds, such as Indonesia (March 2018, \$2bn) (£1.5b), Belgium (March 2018, \$ 5.5bn) (£4.5b), Poland (Dec 2016, \$2bn) (£1.5b), and France (Jan 2017, \$16.7bn) (£12.8b).¹⁵⁴⁰ This research argues that Nigeria's green bond is small and needs to increase because the climate change regime clearly states that there is a need to mobilise a large sum of private investment to achieve the targets of the Paris Agreement.¹⁵⁴¹

6.3.4 ASSESSMENT OF THE PROGRAMMES

The question is whether the above-mentioned programmes such as the GGW and the green bond where the government embarked on planting trees to fight drought would support Article 4(1) (c) of UNFCCC, Article 2 (1) (a) (iii) Kyoto Protocol and Article 5 of the Paris Agreement as well as the Nigeria NDC forest-related target? Article 4 (1) (d) UNFCCC mandated all Parties to promote and enhance 'sinks and reservoirs of all greenhouse gases... including biomass, forests...'¹⁵⁴² Enhancing the sinks could be done by planting trees that fall into this specific obligation. The Kyoto Protocol is clear when it suggests that members should carry out afforestation and reforestation programmes to enhance the sink and reservoir of GHG in

¹⁵³⁸ Debt Management Office Nigeria available at < <https://www.dmo.gov.ng/fgn-bonds/green-bond> > Accessed 12 March 2020.

¹⁵³⁹ Thomson Reuter Foundation News available at < <https://news.trust.org/item/20190527113641-a3su0> > Accessed 12 March 2020.

¹⁵⁴⁰ Climate Bonds Initiative, Green Bonds the State of The Market 2018, at 5 Available at < https://www.climatebonds.net/files/reports/cbi_gbm_final_032019_web.pdf > Accessed 2nd April 2020

¹⁵⁴¹ See Article 6 (8) (b) states that parties are to 'Enhance public and private sector participation in the implementation of nationally determined contributions'; Achim Steiner, *The Financial System We Need: Aligning the Financial System with Sustainable Development*. Nairobi (United Nations Environment Programme 2015) at 7.

¹⁵⁴² Article 4 (1) d UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

the forest sector.¹⁵⁴³ This is one of the voluntary forest-related targets of Nigeria's NDC, which states that the Nigerian government will embark on a reforestation programme to fulfil its forest-related obligation. Again, SDG targets 15: 1 and 15:2 emphasised halting deforestation and restoring degraded forest. This means that where forest area is depleted, it is the member state's responsibility to restore the degraded forests.¹⁵⁴⁴

Assessing these obligations against the forest programmes and projects indicate that the programmes appear in line with these obligations, but they may not lead to the achievement of these obligations. The above programmes highlighted show that most of the programmes were abandoned.¹⁵⁴⁵ The key noticeable programmes that are currently going on is the GGW and the green bond. The green bond is relatively new and its contribution to forest recovery is unclear. Regarding the GGW, this programme has contributed to planting trees and nursing seedlings that will help the Nigerian government fight drought.¹⁵⁴⁶ However, in 2012, when the REDD+ readiness programme started in Nigeria, the programme conducted the effectiveness of past and current Nigeria's forest programme and projects.¹⁵⁴⁷ The REDD+ readiness programme described Nigerian government's effort to increase forest cover in this manner, 'in spite of a variety of attempts to address deforestation in Nigeria, as mentioned above, the rate of deforestation in Nigeria remains one of the highest in the world.'¹⁵⁴⁸ As stated above, REDD+ readiness started in 2012, and before this time, GGW was ongoing since 2005, and it has not

¹⁵⁴³ Kyoto protocol Article 2 (1) a ii Kyoto Protocol.

¹⁵⁴⁴ WWF Report 2018, Forests and Sustainable Development the Role of SDG 15 In Delivering the 2030 Agenda (WWF edn, 2018) 8-11 available at https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_forest_practice_report_hlpf_2018_forests_and_sustainable_development_the_role_of.pdf > Accessed 23 April 2020.

¹⁵⁴⁵ See at 6.6 assessment of the forest related programmes and projects

¹⁵⁴⁶ Great Green Wall, < <http://www.fao.org/3/a-be714e.pdf> <https://www.greatgreenwall.org/results> > Accessed 5th January 2020.

¹⁵⁴⁷ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 22 available <<http://mptf.undp.org/document/download/10974>> Accessed on 12 December 2019.

¹⁵⁴⁸ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 22 available <<http://mptf.undp.org/document/download/10974>> Accessed at 12 December 2019.

reflected the reduction of GHG emissions in the AFOLU sector. For instance, from 2000 to 2015, emission in the AFOLU sector has recorded about a 27% increase.¹⁵⁴⁹ In 2010, AFOLU emission is estimated as 380514, and in 2015, 479571 Gg CO₂-eq.¹⁵⁵⁰ This means there is no guarantee that the GGW and other projects and programmes mentioned above will help the Nigerian government restore degraded land, reinstate the depleted forest, and achieve the NCCFROs in 2030. Therefore, there is a need to look at the international support programme in Nigeria, the UN REDD+ programme. The relevance of this programme in emission reduction and how it will help the Nigerian government achieve the NCCFROs are analysed below.

6.4 THE UN REDD+ PROGRAMME

REDD stands for reducing emissions from deforestation and forest degradation.¹⁵⁵¹ This is a programme initiated by the climate change regime. The programme intends to stop deforestation, improve forest cover, and reduce emissions in the AFOLU sector.¹⁵⁵² The REDD+ programme aims to support the NCCFROs at the national level. This segment assesses the evolution of REDD+ and the REDD + readiness programme in Nigeria and how it will help the Nigerian government achieve the NCCFROs.

6.4.1 THE EVOLUTION OF REDD+ PROGRAMME

The seed of REDD was planted in the Kyoto Protocol.¹⁵⁵³ The Marrakesh Accords, COP7 2001 saw the debate about the exact role REDD activities will play to meet targets of Annex 1

¹⁵⁴⁹Ibid 97.

¹⁵⁵⁰Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 97.

¹⁵⁵¹International Institute for Environment and Development < <https://www.iied.org/redd-protecting-climate-forests-livelihoods> > Accessed 3rd January 2020.

¹⁵⁵² Food and Agriculture Organization of the United Nations, REDD+ Reducing Emissions from Deforestation and Forest Degradation available at <http://www.fao.org/redd/overview/en/> > Accessed 12 May 2020

¹⁵⁵³ See Article 2 (1) a (i) (ii) of the Kyoto Protocol; V Holloway and E Giandomenico, Carbon Planet White Paper: The History of REDD Policy (2009) 5.

countries. However, at this time, REDD activities are centered on just afforestation and reforestation.¹⁵⁵⁴ In 2005, the European Commission in a policy paper stated that ‘devising incentives for developing countries to take part in international emissions reductions may also be a way of achieving wider participation by developed countries’¹⁵⁵⁵ and that a fresh look is needed to halve deforestation in the world forest.¹⁵⁵⁶ At COP 11 (2005), the Coalition of Rainforest Nations¹⁵⁵⁷ requested the reduction of emission from deforestation in developing countries and indicated an interest to actualise the objective of Article 2 of Kyoto protocol.¹⁵⁵⁸ The idea of REDD became formal at COP 13 in 2007.¹⁵⁵⁹ Parties agreed that they would collectively aim at halting forest cover loss in developing countries in 2020.¹⁵⁶⁰ However, there are several issues relating to land use change and forestry,¹⁵⁶¹ such as land conservation, sustainable management of forest, enhancement of forest carbon stock, biodiversity and social benefits etc.¹⁵⁶² So, the question was whether REDD should include some of the above issues.¹⁵⁶³ In December 2008, the Subsidiary Body for Scientific and Technological Advice of UNFCCC¹⁵⁶⁴ referred to REDD as ‘reducing emissions from deforestation and forest degradation in developing countries, and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.’

¹⁵⁵⁴ V Holloway and Giandomenico, Carbon Planet White Paper: The History of REDD Policy (2009) 6.

¹⁵⁵⁵ Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions ‘Winning the Battle Against Global Climate Change’ 2005 < Available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX%3A52005DC0035&from=RO> > Accessed 6th February 2020.

¹⁵⁵⁶ Ibid 9.

¹⁵⁵⁷ Especially the PNG Government and the Government of Costa Rica.

¹⁵⁵⁸ United Nations Framework Convention on Climate Change Conference Of The Parties, 11 sessions December 2005, Item 6 of the provisional Agenda, “Reducing emissions from deforestation in developing countries: approaches to stimulate action” Submission by the Governments of Papua New Guinea and Costa Rica < A available at <https://unfccc.int/resource/docs/2005/cop11/eng/misc01.pdf> > Accessed 2nd January 2020.

¹⁵⁵⁹ United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its thirteenth session, held in Bali from 3 to 15 December 2007 FCCC/CP/2007/6/Add 1.

¹⁵⁶⁰ See Decision 2/CP.13 *ibid*.

¹⁵⁶¹ V Holloway and Giandomenico, Carbon Planet White Paper: The History of REDD Policy (2009) 6 and 12.

¹⁵⁶² Ibid 12.

¹⁵⁶³ Ibid 12.

¹⁵⁶⁴ Subsidiary Body for Scientific and Technological Advice was set up by the Convention. It offers scientific and technological advice to the Convention, Kyoto Protocol and Paris Agreement.

In this manner, REDD, originally known as 'reducing emissions from deforestation and forest degradation,' has now been added with 'conservation, sustainable management for forests and enhancement of forest carbon stocks in developing countries.'¹⁵⁶⁵ Since then, REDD has been referred to as REDD-plus.¹⁵⁶⁶ So, 'REDD+ goes beyond simply deforestation and forest degradation and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.'¹⁵⁶⁷ Therefore, REDD+ 'is a climate change mitigation solution being developed by Parties to the UNFCCC that incentivizes developing countries to keep their forests standing.'¹⁵⁶⁸ The intention is to invest in a low carbon path to sustainable development,¹⁵⁶⁹ reduce emissions from the forest sector, and sustainable management of the forest lands.¹⁵⁷⁰

The REDD+ programme has raised several criticisms. Critics argue that there is no genuine participation of local communities in the implementation of the programme.¹⁵⁷¹ Local communities and forest dependent communities struggle to be heard.¹⁵⁷² In addition, REDD+ promotes an emission-based carbon market. Since it is an emission-based carbon market, it will attract developed countries and private companies to increase profit and enclose lands in developing countries.¹⁵⁷³ This may lead to the selling of forestlands to transnational companies as well as land grabbing in developing countries.¹⁵⁷⁴ Moreover, REDD+ is viewed as

¹⁵⁶⁵UN-REDD Programme Collaborative Workspace, 'About REDD+' Available at <https://www.unredd.net/about/what-is-redd-plus.html> Accessed 2nd February 2020.

¹⁵⁶⁶ V Holloway and Giandomenico, Carbon Planet White Paper: The History of REDD Policy (2009) 14

¹⁵⁶⁷UN-REDD Programme Collaborative Workspace, 'About REDD+' Available at <https://www.unredd.net/about/what-is-redd-plus.html> Accessed 2nd February 2020.

¹⁵⁶⁸ Ibid.

¹⁵⁶⁹ Ibid.

¹⁵⁷⁰ Ibid.

¹⁵⁷¹K Lawlor and D J Ganz, 'Community participation and benefits in REDD+: A review of initial outcomes and lessons (2013) 4 (2) Forests, 4(2) 296-318 at 314.

¹⁵⁷² Friends of the Earth International, REDD: the realities in black and white (Climate and Deforestation 2010) available at <https://www.foei.org/wp-content/uploads/2014/01/REDD-ingles-final-17-11.pdf> > Accessed 12 May 2020 at 16.

¹⁵⁷³J Cabello and T Gilbertson, 'A colonial mechanism to enclose lands: A critical review of two REDD+-focused special issues' (2012) 12 (1/2) Ephemera: Theory & Politics in Organization, 162-180 at 176.

¹⁵⁷⁴Indigenous Environmental Network (2009). REDD: Reaping profits from evictions, land grabs, deforestation, and destruction of biodiversity. Indigenous Environmental Network. Accessed 1 December 2010, from: <http://www.ienearth.org/REDD/redd.pdf>. ; C Okereke and K Dooley, 'Principles of justice in proposals and policy

centralising forest management. Forest management in most developing countries is decentralised, where indigenous forest owners are allowed to manage forest resources.¹⁵⁷⁵ This accommodates the right of indigenous forest owners.¹⁵⁷⁶ However, the REDD+ may undermine this decentralised system since REDD+ requires the national government to establish a centralised forest carbon management plan or national institutions for the payment of carbon stock in the forest.¹⁵⁷⁷ This may negatively affect indigenous forest communities.¹⁵⁷⁸ In this manner, the REDD+ programme is seen as not safeguarding the rights of local communities.¹⁵⁷⁹ These and many others are key concerns of the REDD+ programme.¹⁵⁸⁰ Despite these concerns, REDD+ readiness programme¹⁵⁸¹ was launched in different countries including Nigeria. The discussion below assesses the REDD+ readiness programme and key concerns in the context of Nigeria.

6.4.2 THE NIGERIA REDD+ READINESS PROGRAMME

The REDD+ readiness programme is a process to help countries get ready for future financial incentive for the REDD+ programme.¹⁵⁸² The Nigeria REDD+ readiness programme was

approaches to avoided deforestation: towards a post-Kyoto climate agreement (2010) 20 (1) *Global Environmental Change*, 82-95 at 91.

¹⁵⁷⁵ M M Bayrakand L M Marafa, 'Ten years of REDD+: A critical review of the impact of REDD+ on forest-dependent communities (2016) 8 (7) *Sustainability*, 1-22 at 5-6.

¹⁵⁷⁶ M M Bayrakand L M Marafa, 'Ten years of REDD+: A critical review of the impact of REDD+ on forest-dependent communities (2016) 8 (7) *Sustainability*, 1-22 at 5-6.

¹⁵⁷⁷ M M Bayrakand L M Marafa, 'Ten years of REDD+: A critical review of the impact of REDD+ on forest-dependent communities (2016) 8 (7) *Sustainability*, 1-22 at 5-6.

¹⁵⁷⁸ J Pelletier and M Skutsch, 'The place of community forest management in the REDD+ landscape (2016) 7 (8) *Forests* at page 2.

¹⁵⁷⁹ N M Dawson and H Schroeder, 'Barriers to equity in REDD+: Deficiencies in national interpretation processes constrain adaptation to context (2018) 88 *Environmental science & policy*, 1-9. At 1; J Kill 'REDD: A collection of conflicts, contradictions and lies (2015) World Rainforest Movement International Secretariat, Montevideo 9

¹⁵⁸⁰ E Turnhout and M Lederer, 2017. 'Envisioning REDD+ in a post-Paris era: between evolving expectations and current practice. *Wiley interdisciplinary reviews: 2017* (8) 1 *climate change* 1- 13 at 8; C J Cavanagh and T L Trædal, 'Securitizing REDD+? Problematising the emerging illegal timber trade and forest carbon interface in East Africa.' (2015) 60 *Elsevier Ltd* 72-82 at 74.

¹⁵⁸¹ The REDD + readiness programme is a process to improve national government capacity to implement REDD+ see The Forest Carbon Partnership Facility, available at [About the FCPF | Forest Carbon Partnership Facility](#) > accessed 20th March 2021.

¹⁵⁸² See the World Bank Group Climate Change, carbon finance for sustainable development (2013 Annual Report) at 5; The Forest Carbon Partnership Facility, available at [About the FCPF | Forest Carbon Partnership Facility](#) > accessed 20th March 2021.

meant to last two and a half years, 2012 to 2015.¹⁵⁸³ The pilot programme started in Cross Rivers State (CRS) of Nigeria.¹⁵⁸⁴ The reason for using CRS as a pilot for the REDD+ readiness was that the rest of the country has been forested, and over 50% of the remaining tropical forest is now located in a single state—CRS.¹⁵⁸⁵ The plan is that after the intensive building of the REDD+ mechanism in CRS, the REDD+ mechanism will inform the national readiness mechanism. Thereafter, it will be replicated in any of the 36 states that indicate interest.¹⁵⁸⁶ The overall goal of the REDD+ readiness in Nigeria is to reduce forest degradation and reduce emissions. .¹⁵⁸⁷

The REDD+ pilot in CRS has been completed.¹⁵⁸⁸ The REDD+ readiness programme in Nigeria established institutional and technical capabilities at the federal and state levels.¹⁵⁸⁹ . The programme established the REDD+ draft which was presented to the Federal government of Nigeria.¹⁵⁹⁰ The REDD+ draft strategy as a pilot in CRS will serve as a model for other states.¹⁵⁹¹ The REDD+ readiness has also led to the establishment of the Forest Monitoring System in CRS.¹⁵⁹² This has contributed to monitoring of forest changes in CRS.¹⁵⁹³ It was recorded that a functional GIS laboratory and facilities had been established in CRS that enabled monitoring forest changes.¹⁵⁹⁴ ‘About 80 sample plots have been established in 62

¹⁵⁸³ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme available 15 <<http://mptf.undp.org/document/download/10974> > Accessed 12 December 2019.

¹⁵⁸⁴ Ibid 15.

¹⁵⁸⁵ Ibid 15.

¹⁵⁸⁶ Ibid 56 .

¹⁵⁸⁷ Ibid 56.

¹⁵⁸⁸ UN-REDD Programme, National Programme Final Report Nigeria (2018).

¹⁵⁸⁹ UN-REDD Programme available at > <https://www.unredd.net/regions-and-countries/africa/nigeria.html> > Accessed 20th January 2020; A Asiyambi and U Isyaku, U., 2017. ‘REDD+ in West Africa: politics of design and implementation in Ghana and Nigeria 2017(8)3 Forests 1-24 at 11-13.

¹⁵⁹⁰ UN-REDD Programme, National Programme Final Report Nigeria (2018) 5.

¹⁵⁹¹ UN-REDD Programme available at > <https://www.unredd.net/regions-and-countries/africa/nigeria.html> > Accessed 20th January 2020.

¹⁵⁹² UN-REDD Programme available at > <https://www.unredd.net/regions-and-countries/africa/nigeria.html> > Accessed 20th January 2020.

¹⁵⁹³ UN-REDD Programme available at > <https://www.unredd.net/regions-and-countries/africa/nigeria.html> > Accessed 20th January 2020.

¹⁵⁹⁴ UN-REDD Programme available at > <https://www.unredd.net/regions-and-countries/africa/nigeria.html> > Accessed 20th January 2020.

local communities to estimate carbon stocks and emission factors.¹⁵⁹⁵ The REDD+ pilot has also seen the establishment of community-based projects. For example, grants were approved and disbursed to ‘12 civil society organisations for 12 community-based projects in Cross River State.’¹⁵⁹⁶ Participants were trained on how to design projects that are linked to the REDD+ readiness process.¹⁵⁹⁷ Specific training includes how to sustainably manage the forest, engage in climate change mitigation activities, and sustain livelihoods to combat poverty.¹⁵⁹⁸ The programme empowers participants in CRS. The programme also offers a unique opportunity to protect and improve the forest areas.¹⁵⁹⁹ The REDD+ programme led the CRS government to revoke 10km buffer zones that were earmarked for construction. The proposed construction of superhighway goes through the forest in CRS, and superhighway construction was considered a potential risk to the REDD+ readiness programme.¹⁶⁰⁰ Again, with the help of the programme, the forest law in CRS was strengthened, and a total ban was placed on logging activities in CRS. Since 2008, the CRS government placed a moratorium on all logging activities.¹⁶⁰¹ The imposition of the ban on logging activities was attributed to the CRS government’s intention to benefit from the REDD+ programme.¹⁶⁰²

6.4.3 ASSESSMENT OF THE REDD+ READINESS PROGRAMME

¹⁵⁹⁵ UN-REDD Programme available at > <https://www.unredd.net/regions-and-countries/africa/nigeria.html> > Accessed 20th January 2020.

¹⁵⁹⁶ Ibid.

¹⁵⁹⁷ Ibid.

¹⁵⁹⁸ Ibid.

¹⁵⁹⁹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 38 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019.

¹⁶⁰⁰ UN-REDD Programme available at > <https://www.unredd.net/regions-and-countries/africa/nigeria.html> > Accessed 20th January 2020.

¹⁶⁰¹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme pages 21 and 22 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019.

¹⁶⁰² A P Asiyanbi, ‘A political ecology of REDD+: property rights, militarised protectionism, and carbonised exclusion in Cross River (2016) 4.

A critical examination of the few successes recorded from the REDD+ pilot in CRS supports the NCCFROs particularly, SDG target 15:2 and the Nigeria NDC forest-related obligation. SDG target 15: 2 states that members should halt deforestation. The CRS's placing a moratorium on logging activities, which was strengthened by the REDD+ readiness programme, is in line with SDG target 15:2. This is a clear indication of halting deforestation.¹⁶⁰³

Again, the REDD+ pilot approved grants to people for community-based projects. People were trained on how to manage the forest to support livelihood sustainably. This is in line with Article 4 (1) d UNFCCC, Article 5 (2) Paris Agreement, and SDG target 15.b, which mandated members to provide adequate incentives for SFM which intention is to reduce emissions in the AFOLU sector. Furthermore, the community-based REDD+ readiness projects, which saw the training of civil organisation and the establishment of Forest Monitoring System, may also support other SDGs such as SDG 1 end poverty, and SDG 2 end hunger, food security. This is because the intention of the programme is about sustainable farming where forests can regenerate to build carbon stock and at the same time improve high yield of production.¹⁶⁰⁴

The REDD+ pilot also addresses drivers of deforestation. As noted earlier, drivers of deforestation are unique to each country.¹⁶⁰⁵ For instance, the Nigeria UN REDD+ readiness document pointed out that a weak forestry department is one of the secondary drivers of deforestation.¹⁶⁰⁶ The establishment of the National Forest Monitoring System, and GIS laboratory, and REDD+ draft strategy, touch on the secondary drivers of deforestation,

¹⁶⁰³ However, this thesis contends that total ban of indigenous forest communities from accessing the forests is not in line with SFM and needs to be reviewed. See section 6.5 Key Findings from the Laws, Policies and Programmes.

¹⁶⁰⁴ k Lawlor and D J Ganz, 'Community participation and benefits in REDD+: A review of initial outcomes and lessons (2013) 4 (2) Forests, 4(2) 296-318 at 314.

¹⁶⁰⁵ United Nations Framework of Climate Change, REDD+ available at < <https://redd.unfccc.int/factsheets/drivers-of-deforestation.html> > Accessed 10th January 2020.

¹⁶⁰⁶ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme pages 26 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019

especially capacity building issues. The REDD+ readiness programme is currently extended to two other states in the country.¹⁶⁰⁷

This thesis commends the REDD+ activities. This is because the REDD+ programme incorporates SFM and offers incentives to forest communities for looking after the forest.¹⁶⁰⁸

Even though the REDD+ readiness activities are commendable; this thesis is also aware of several concerns relating to the REDD+ readiness programme in CRS. For instance, the impacts of the programme on livelihood.¹⁶⁰⁹ Studies show that a large population is involved in subsistence farming, and most of the population relies on forest resources.¹⁶¹⁰ Income from '[n]on-timber Forest Products to livelihood amount 13% of the total annual household income.'¹⁶¹¹ Before 2008, loggers were allowed to harvest timbers from the community forest in CRS, the loggers were required to pay royalties where 70% of it goes to the communities and the remaining 30% to the state government.¹⁶¹² The loggers are expected to harvest timber from matured trees and plant five seedlings as a replacement.¹⁶¹³ However, when the moratorium was placed on the forest, dealers including indigenes were restricted from accessing the resources in the forest.¹⁶¹⁴ This has resulted in a loss in livelihood and further

¹⁶⁰⁷International Bank for Reconstruction and Development, Project Paper on A Proposed Additional Grant in The Amount of Us\$ 4.94 million to The Federal Republic of Nigeria for REDD+ Readiness Preparation Support from The Forest Carbon Partnership Facility (2018) 8.

¹⁶⁰⁸ P Bottazzi, and S Rist, Assessing sustainable forest management under REDD+: A community-based labour perspective (2013) 93 Ecological economics, 94-103.

¹⁶⁰⁹A Alobi and N M Ifebueme, 'Perception of Forest Stakeholders on Logging Ban in Cross River State, Nigeria 2020 (5) 2 Asian Journal of Research in Agriculture and Forestry, 1-15 at 8.

¹⁶¹⁰ Food and Agriculture Organization of the United Nations, 'Nigeria at a glance' available < <http://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en/> > Accessed 11th January 2020.

¹⁶¹¹ E Ezebilo and L Mattsson. 2010. 'Contribution of Non-timber Forest Products to Livelihoods of Communities in Southeast Nigeria (2010) 17 (3) International Journal of Sustainable Development & World Ecology 231–235

¹⁶¹² UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 21 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019.

¹⁶¹³I Ekott, Investigation: How a \$4 million UN climate programme impoverished Nigerian communities' (Premium Times 2016) available at < <https://www.premiumtimesng.com/news/headlines/202150-investigation-4-million-un-climate-programme-impoverished-tortured-nigerian-communities.html> > Accessed 5th January 2020.

¹⁶¹⁴ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions From Deforestation And Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 38 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019

increased the already known poverty.¹⁶¹⁵ Describing the situation, the CRS Timber Union said, ‘our members lost out when the ban started, some died of shock. Many lost everything they had.’¹⁶¹⁶ It is hereby noted that placing a moratorium in logging activities does not always yield positive results. For example, in 2010 Norway signed about 1\$ billion agreements with the Indonesian government to reduce deforestation, reduce GHG emissions and get ready for the REDD+ programme.¹⁶¹⁷ The Indonesian government claimed that deforestation has reduced in the areas covered by the ban.¹⁶¹⁸ However, Greenpeace reports on the moratorium show that between 2011 to 2018, the Indonesian government lost 12,000 square kilometers of forests within the moratorium areas.¹⁶¹⁹

Another issue is the delay in payment of the affected people because of the ban. For instance, REDD+ has three phases.¹⁶²⁰ The readiness phase takes about two or more years where relevant laws were made. This follows by the capacity building phase and the final phase, where measurement and carbon credit compensate the amount of forest being conserved.¹⁶²¹ To receive high compensation ‘a state must have retained its forest sustainably for more than

¹⁶¹⁵Ibid, S Awoniyi and T T Amos, ‘A Review of REDD+ Effectiveness at Ensuring Rural Community Resilience to Climate Change and Food Security in Nigeria (2016) 6 (1) Nigerian Journal of Agricultural Economics, 53-64 AT 60.

¹⁶¹⁶ I Ekott, Investigation: How a \$4 million UN climate programme impoverished Nigerian communities’ (Premium Times 2016) available at < <https://www.premiumtimesng.com/news/headlines/202150-investigation-4-million-un-climate-programme-impoverished-tortured-nigerian-communities.html> > Accessed 5th January 2020.

¹⁶¹⁷ S Sloan and W F Laurance, ‘Does Indonesia’s REDD+ moratorium on new concessions spare imminently threatened forests? (2012) 5 (3) Conservation Letters, 222-231 at 222.

¹⁶¹⁸ Mongabay News and Inspiraion from NATURE’S Frontline, Indonesia forest-clearing ban is made permanent, but labeled ‘propaganda’ (2019) available at [Indonesia forest-clearing ban is made permanent, but labeled ‘propaganda’ \(mongabay.com\)](https://www.mongabay.com/news/indonesia-forest-clearing-ban-is-made-permanent-but-labeled-propaganda/) > Accessed 15th September 2021.

¹⁶¹⁹ Greenpeace, one million hectares burned inside Forest Moratorium area, Greenpeace analysis shows (2019) available at > [One million hectares burned inside Forest Moratorium area, Greenpeace analysis shows - Greenpeace Southeast Asia](https://www.greenpeace.org/asia/en/press-releases/2019/09/01/one-million-hectares-burned-inside-forest-moratorium-area-greenpeace-analysis-shows/) > Accessed 15th September 2021 ; Mongabay News and Inspiraion from NATURE’S Frontline, Indonesia forest-clearing ban is made permanent, but labeled ‘propaganda’ (2019) available at [Indonesia forest-clearing ban is made permanent, but labeled ‘propaganda’ \(mongabay.com\)](https://www.mongabay.com/news/indonesia-forest-clearing-ban-is-made-permanent-but-labeled-propaganda/) > Accessed 15th September 2021; L Tacconi and A Maryudi, ‘Law enforcement and deforestation: Lessons for Indonesia from Brazil (2019) 108 Forest policy and economics, at 8.

¹⁶²⁰GCF in Brief: REDD+ Available at < https://www.greenclimate.fund/sites/default/files/document/gcf-brief-redd_0.pdf > Accessed 11th February 2020.

¹⁶²¹ I Ekott, Investigation: How a \$4 million UN climate programme impoverished Nigerian communities’ (Premium Times 2016) available at < <https://www.premiumtimesng.com/news/headlines/202150-investigation-4-million-un-climate-programme-impoverished-tortured-nigerian-communities.html> > Accessed 5th January 2020 .

five years.¹⁶²² Though monies were provided even at the readiness phase, for instance, in the Nigeria REDD+ readiness programme¹⁶²³ about US\$ 4m was budgeted for the two and half year programme in CRS.¹⁶²⁴ But this initial fund was meant for preparing action plans, training officials,¹⁶²⁵ and it was not meant for the communities.¹⁶²⁶ Not only that, the REDD+ readiness programme in CRS experience was that the readiness phase was extended to 2016, after two years of the original year the programme was billed to end.¹⁶²⁷ Communities were kept out of the forest all this period with little or no help from the government.¹⁶²⁸

An additional area where academics raised concern is the issue of ‘carbonized exclusion.’¹⁶²⁹ One of the fears of the programme was that as the forest keeps improving as a result of the REDD+ readiness programme, incentives that meant for individual and communities might be appropriated by political leaders, which may undermine the effort of local people in forest management.¹⁶³⁰ There is no clear law in Nigeria that guarantees incentives from the REDD+ programme to the communities that look after the forest. This fear of the leaders appropriating benefits from REDD+ programme was deepened by the prevailing Land Use Act 1978 (LUA)

¹⁶²² Ibid.

¹⁶²³ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 38 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019

¹⁶²⁴ Ibid 1.

¹⁶²⁵ I Ekott, Investigation: How a \$4 million UN climate programme impoverished Nigerian communities’ (Premium Times 2016) available at <<https://www.premiumtimesng.com/news/headlines/202150-investigation-4-million-un-climate-programme-impoverished-tortured-nigerian-communities.html>> Accessed 5th January 2020.

¹⁶²⁶ Ibid.

¹⁶²⁷ I Ekott, Investigation: How a \$4 million UN climate programme impoverished Nigerian communities’ (Premium Times 2016) available at <<https://www.premiumtimesng.com/news/headlines/202150-investigation-4-million-un-climate-programme-impoverished-tortured-nigerian-communities.html>> Accessed 5th January 2020.

¹⁶²⁸ I Ekott, Investigation: How a \$4 million UN climate programme impoverished Nigerian communities’ (Premium Times 2016) available at <<https://www.premiumtimesng.com/news/headlines/202150-investigation-4-million-un-climate-programme-impoverished-tortured-nigerian-communities.html>> Accessed 5th January 2020 .

¹⁶²⁹ A P Asiyambi, ‘A political ecology of REDD+: property rights, militarised protectionism, and carbonised exclusion in Cross River (2016) 77 Elsevier in GeoForum 1-28 at 21; K P Andersson and G Y Wong, 2018. ‘Wealth and the distribution of benefits from tropical forests: Implications for REDD+. (2018) 72 Land use policy, 510-522 at 510.

¹⁶³⁰ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 48 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019.

of Nigeria, which vests all lands to the state governors.¹⁶³¹ The fear is that if the LUA trusts the land to the state governors, they might also appropriate incentives accruing from the REDD+ programme to the detriment of locals who protect the land and the forests. The REDD+ readiness programme also notes this concern. It states that the LUA does not recognise the community's rights over forests and removes incentives from communities and villages.¹⁶³² This makes the implementation of REDD+ readiness which directly involves communities very difficult.¹⁶³³ Though, the Forest Policy 2006 supports the need for community participation in forest management¹⁶³⁴ as well as widening the concept of forest reserves by allowing any individual, group, or community to protect the forest.¹⁶³⁵ But the Forest Policy did not offer a clear solution by guaranteeing forest communities to benefit incentives from REDD+ activities. For example, the Forest 'policy aims at guaranteeing tree ownership rights within the enabling laws.'¹⁶³⁶ This means that the Forest Policy aligns itself with section 1 of the provision of the LUA, which state that all land belongs to the governor of the states.

Academics proposed that REDD+ programme in Nigeria should recognise community tenure system¹⁶³⁷ in order to lay to rest the fear of leaders appropriating forest at the expense of local people. The point is that forest communities will be happy to look after the forest if they are the major beneficiaries. However, they will be reluctant to look after forests if they are not

¹⁶³¹R T Ako, 'Nigeria's Land Use Act: An Anti-Thesis to Environmental Justice' (2009)53 (2) 289-304 at 294.

¹⁶³² UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 28 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019.

¹⁶³³ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 38 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019.

¹⁶³⁴ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 21.

¹⁶³⁵ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006)68.

¹⁶³⁶ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 68-69.

¹⁶³⁷ A P Asiyani, 'A political ecology of REDD+: property rights, militarised protectionism, and carbonised exclusion in Cross River (2016) 77 Elsevier in GeoForum 1-28 at 8; D Yeang, 'Community tenure rights and REDD: a review of the Oddar Meanchey community forestry REDD project in Cambodia (2012) 5 (2) ASEAS-Austrian Journal of South-East Asian Studies, 263-274 at 271 and 272. ; Food and Agriculture Organization of the United Nation, Tenure of indigenous peoples territories and REDD+ as a forestry management incentive: the case of Mesoamerican countries (FAO 2012) at 1-6 available at <[Tenure of indigenous peoples territories and REDD+ as a forestry management incentive: the case of Mesoamerican countries \(fao.org\)](http://www.fao.org/tenure/indigenous-peoples-territories-and-redd/)> Accessed 14th September 2021.

major beneficiaries. Any attempt to deprive communities' right to carbon from REDD + readiness programme by any leader is clearly against SDG 1:4, where member states are obligated to protect indigenous rights to economic resources and own and control land and other forms of property.¹⁶³⁸ However, there is no proven case where leaders have appropriated the right to carbon or benefits arising from the REDD + readiness programme or where the indigenous people were left out of any compensation in the REDD+ pilot programme in CRS of Nigeria. Even though there is no concrete evidence of leader's misuse of funds arising from the REDD+ pilot, academics who investigated the REDD+ pilot programme in CRS asserted that REDD+ programme in Nigeria is vulnerable to corruption.¹⁶³⁹

6.5 KEY FINDINGS FROM THE LAWS, POLICIES AND PROGRAMMES

Reducing emissions in the AFOLU sector and fulfilling the NCCFROs require the Nigerian government to address the major drivers of deforestation: fuelwood extraction for cooking and heating, agricultural expansion and logging activities, afforestation, and reforestation programmes. The key laws such as the Forest Policy 2006, NARF 2015, the NEP 2018, the REDD+ readiness programme support and reflect the NCCFROs such as SDG targets 15: 1, 15: 2, and 15:3 and the Nigeria NDC forest-related pledges, Article 4(1) (c) UNFCCC, Article 2 (1) (a) (iii) Kyoto Protocol and Article 5 of the Paris Agreement. This is in line with SDG target 13:2, which encourages member nations to take action to 'integrate climate change

¹⁶³⁸ See SDG 1 target 4 'By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance'

¹⁶³⁹ O Fadairo and J Olawoye, 'A corruption risk assessment for reducing emissions from deforestation and forest degradation in Nigeria 2018 (10) 1 International Journal of Climate Change: Impacts and Responses at 16 and 17 ;O S Fadairo, 'Corruption and the imbalance in climate finance flows in Sub Sahara Africa: The case of cross river, Nigeria and lessons for social science researchers (2018) Tackling Sustainable Development in Africa and Asia: Perspectives from Next Generation Researchers, 13 and 14.

measures into national policies, strategies and planning.’ It is argued that Nigerian Laws reflecting the NCCFROs will not guarantee the achievement of the NCCFROs but, implementing those laws and policies may lead to the realisation of the NCCFROs. First, the Forest Policy 2006 aims to improve the Nigerian forest areas from the remaining 6% to 25%. Though, no particular date was given for this 25% intended increment. This is 2021, about fourteen years since the forest policy was issued. The prevailing data relating to land encroachment and continued fuelwood consumption,¹⁶⁴⁰ a major cause of deforestation and emissions in the AFOLU sector, does not show any improvement. Record shows that between 1976/78 and 1993/95, agricultural activities had expanded to about 84,073 km².¹⁶⁴¹ NARF 2015 states that about 71.2 million cultivable areas of land is presently used for agriculture in Nigeria.¹⁶⁴² In terms of fuelwood harvesting, the 2018 Biennial Report of Nigeria indicates that fuelwood removal in 2000 was 59348650, 2010 was 63216730, and 2015 was estimated as 64678685.¹⁶⁴³ The increase between 2000 to 2015 is about 8.2% fuelwood removal.¹⁶⁴⁴ This is not included roundwood removals.¹⁶⁴⁵ These activities have reflected in the overall deforestation in the country. In 1990 the total forest loss was estimated at 50%,¹⁶⁴⁶ from 2000 to 2005, it was estimated at 55.7%.¹⁶⁴⁷ The remaining forest in 2006 was estimated to be less

¹⁶⁴⁰Energy Information Administration (EIA), Country Analysis Brief: Nigeria, 2016 at 1, < https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf > Accessed 12 January 2020.

¹⁶⁴¹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 24 available <<http://mptf.undp.org/document/download/10974> > Accessed 12 December 2019

¹⁶⁴² J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) page 23 available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Climate.pdf> > Accessed 9th December 2019

¹⁶⁴³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 101.

¹⁶⁴⁴Ibid 101.

¹⁶⁴⁵Round wood increase was 8.7% 2000 2015; See Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 101.

¹⁶⁴⁶ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 17 available <<http://mptf.undp.org/document/download/10974> > Accessed 12 December 2019.

¹⁶⁴⁷M Nachmany and T Townshend, The Globe Climate Legislation Study a Review of Climate Change Legislation in 66 Countries (4th ed Globe International 2014) 420; O Saka-rasaq, ‘Forest Loss in Nigeria, the

than 10% by the forest policy.¹⁶⁴⁸ In 2010, it was 6%.¹⁶⁴⁹ Although, the President of Nigeria at COP 25 in 2019 stated that Nigeria's effort at the domestic level had increased the forest areas to 6.7%.¹⁶⁵⁰ However, there is no official document showing that Nigeria's forest has presently increased by 6.7%. If the 6.7% increase of Nigeria's forest claimed by the Nigerian president is correct, this thesis argues that 6.7% is small compared to the 25% increase of forest areas proposed by the Forest Policy 2006. From 2006 when the Forest Policy was initiated to date is about 16 years, and after 16 years, the Nigerian government only made a 6.7% increase of forest out of 25%. This clearly indicates that the laws and the policies merely reflect the obligations without teeth in implementation.¹⁶⁵¹

Second, the issue of implementation. The European Commission Directorate-General Development and FAO investigation of Nigerian experience in implementing national forest programmes 2003 states that weak planning and implementation strategy and non-enlisting stakeholders in the planning process were attributed to the low impact of national forest programmes in Nigeria.¹⁶⁵² More recently, the Nigeria UN REDD+ readiness document clearly points out that 'poor conservation and poor enforcement of forest laws, policies and regulations are important enablers of deforestation.'¹⁶⁵³ The Agriculture Promotion Policy (2016 – 2020)

Impact on Climate and People from the perspectives of illegal Forest activities and Government Negligence (Raseborg, 2019) 1.

¹⁶⁴⁸ Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006) 3.

¹⁶⁴⁹ 'Nigeria Vision 20:2020' (Federal Ministry of Budget and National Planning 2009) 83 <http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/nigeria/nigeria-vision-20-20-20.pdf> accessed 26 January 2019.

¹⁶⁵⁰ President Buhari's full speech at 74th Session of UNGA (PM News 2019) available at <<https://www.pmnewsnigeria.com/2019/09/24/president-buharis-full-speech-at-74th-session-of-unga/>> Accessed 6th January 2020.

¹⁶⁵¹ O I Faleyimu and B O Agbeja 'Constraints to forest policy implementation in the Southwest Nigeria: Causes, consequences and cure (2012) 2(2) Resources and Environment 37-44 at 37; K M Ibrahim and S I Muhammad, 'A review of afforestation efforts in Nigeria (2015) 4(12) International Journal of Advanced Research in Engineering and Applied Sciences, 24-37. 34.

¹⁶⁵² European Commission and FAO, 'Experience of Implementing National Forest Programmes in Nigeria (2003) 19 <<http://www.fao.org/3/ac918e/ac918e00.pdf>> Accessed 20th December 2019.

¹⁶⁵³ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions From Deforestation And Forest Degradation In Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 25 available <<http://mptf.undp.org/document/download/10974>> Accessed 12 December 2019.

was on point when it highlighted that framework like 'NARF had not been implemented.'¹⁶⁵⁴ As highlighted above, the Forest Policy 2006 planned to increase 25% forest areas in Nigeria, 16 years down the line, only 6.7% purported increase has been made. This shows that the laws were not properly implemented.¹⁶⁵⁵ Even the Presidential afforestation programme was not effective due to funding issues.¹⁶⁵⁶ The GGW, which claimed to have conducted 92 community tree nurseries, 415km shelterbelt, and 235 ha community orchards, is nothing compared to Burkina Faso that incorporates the same GGW. Burkina Faso has carried out programmes through the National Centre for Forest Seed Production, which has helped about 1,300 community nurseries.¹⁶⁵⁷ The National Land Management Programmes of Burkina Faso covers about 8,000 communities in the country.¹⁶⁵⁸ Burkina Faso's population in 2017 is just 19.3 million¹⁶⁵⁹ compared to Nigeria, with 182 million.¹⁶⁶⁰ Therefore, implementation of the existing policies (the Forest Policy, NARF) and the programmes such as the Green Bond programme, GGW, is what the Nigerian government should prioritise.

The third issue is the REDD+ programme and its efficacy in reducing emissions of GHG in the AFOLU sector in Nigeria. There were many benefits highlighted in the programme.¹⁶⁶¹ Even the recent Nigeria national forest reference emission level (FREL) submitted to the UNFCCC in 2019 states that 'the country has promoted natural forest restoration and plantation

¹⁶⁵⁴The Agriculture Promotion Policy (2016 – 2020) pages 29 and 30 available at http://nssp.ifpri.info/files/2017/12/2016-Nigeria-Agric-Sector-Policy-Roadmap_June-15-2016_Final.pdf > Accessed 25 February 2020.

¹⁶⁵⁵ European Commission and FAO, 'Experience of Implementing National Forest Programmes in Nigeria (2003) pages 6 and 7; K M Ibrahim and S I Muhammad, 'A review of afforestation efforts in Nigeria (2015) 4(12) International Journal of Advanced Research in Engineering and Applied Sciences, 24-37 at 36.

¹⁶⁵⁶See at 6.6.1 the presidential initiatives on afforestation programme 2009.

¹⁶⁵⁷ The State of The World's Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 76 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.

¹⁶⁵⁸ Ibid 76.

¹⁶⁵⁹ Ibid 76.

¹⁶⁶⁰Federal Ministry of Environment, Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 20.

¹⁶⁶¹ See at 6.4 assessment of the REDD+ readiness programme.

silviculture that leads to a reduction in emissions from deforestation and forest degradation.’¹⁶⁶² However, placing the moratorium in CRS, which was strengthened by the REDD+ readiness programme, is a major concern that needs special attention. Denying people from accessing the forest with the sole aim of selling carbon is criticised by many academics.¹⁶⁶³ Therefore, the moratorium should be lifted.

This thesis argues that lifting the moratorium will not make the REDD + programme ineffective since REDD+ also includes SFM.¹⁶⁶⁴ SFM, as described above, is to maintain and enhance the economic, social, and environmental values of forests to benefit present and future generations.¹⁶⁶⁵ It is argued that there is always a better way of balancing and improving the standards of the people by sustainably managing the forest and reducing emissions. For example, the CRS sets a better example of sustainable forest management at the community level—community forest management. Community forest management is also a sustainable form of management forest.¹⁶⁶⁶ Since 1981, the Ekuri community in CRS sustainably managed their forest even before the REDD+ pilot started. The idea was that forests are seen as an inheritance of their forefathers and they must be sustained to promote livelihood, community development and poverty reduction.¹⁶⁶⁷ In 1992, the Ekuri community established a

¹⁶⁶²Federal Republic of Nigeria, Forest Reference Emission Levels (FRELs) for the Federal Republic of Nigeria: A Jurisdictional Approach focused on Cross River State (2018) at 9 available at https://redd.unfccc.int/files/nigeria_sub_national_frel_modified_edition_final_submitted.pdf a> Accessed 2nd February 2020.

¹⁶⁶³ See M M Bayrakand L M Marafa, ‘Ten years of REDD+: A critical review of the impact of REDD+ on forest-dependent communities (2016) 8 (7) Sustainability, 1-22 at 8 ; B A Beymer-Farris and T J Bassett, ‘The REDD menace: Resurgent protectionism in Tanzania's mangrove forests (2012) 22(2) Global Environmental Change, 332-341 at 332 ; A P Asiyani, ‘A political ecology of REDD+: property rights, militarised protectionism, and carbonised exclusion in Cross River (2016) 77 Elsevier in GeoForum 1-28 at 19.

¹⁶⁶⁴ P Bottazzi, and S Rist, Assessing sustainable forest management under REDD+: A community-based labour perspective (2013) 93 Ecological economics, 94-103.

¹⁶⁶⁵ UN General Assembly, United Nations Framework Convention on Climate Change: Resolution adopted by the General Assembly on 17 December 2007, Resolution A/RES/62/98, available at: [A/RES/62/98 - E - A/RES/62/98 -Desktop \(undocs.org\)](https://undocs.org/A/RES/62/98) [accessed 1 July 2020].

¹⁶⁶⁶O M, Agbogidi and D E Dolor, Role of community Forestry in sustainable forest Management and Development: a Review (2010) 7 (1) An International Journal .44-54; k Kumsap and R Indanon, Integration of community forest management and development activities: (2016) 37 (3) Journal of Social Sciences 132-137.

¹⁶⁶⁷ World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigeria-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.

community-based NGO to sustainably manage the forest where timber products are harvested from about 2-50 ha plots of lands.¹⁶⁶⁸ Proceeds were used in building small bridges, schools, award scholarships etc.¹⁶⁶⁹ The success of Ekiru sustainable farming and forest management was said to have inspired the CRS Forest Commission to rewrite its strategy for the entire state.¹⁶⁷⁰ It was stated that almost in every community of CRS there are bylaws regulating sustainable management of forest and farming.¹⁶⁷¹ For instance, ‘only the leaves of afang should be plucked and the stem itself should not be disturbed, nor the roots pulled up.’¹⁶⁷² This is to ensure regrowth of the plant. It is now crystal clear why 50% of the entire forest area is standing in CRS in Nigeria. This thesis argues that this SFM in CRS is worth considering in order to improve the Nigerian forest and achieve the NCCFROs in the coming years. This point is further explained in section 8.2.9.

6.6 CONCLUSION

This chapter has shown the relationship between the forest obligation recognised in the climate change instruments with SDG 15 and the Nigeria NDC forest-related obligation. This clearly indicates that the forest-related obligation's achievement could lead to the achievement of the SDG15 and the Nigeria NDC forest-related targets.

¹⁶⁶⁸J Corcoran, Ekuri Initiative Nigeria, Equator Initiative Case Studies Local sustainable development solutions for people, nature, and resilient communities (UNDP 2004) available at < <https://sgp.undp.org/resources-155/award-winning-projects/374-ekuri-initiative/file.html> > Access 4th February 2020.

¹⁶⁶⁹ Ibid, S O Jimoh and E A Abi, ‘Community Based Forest Management as a Tool for Sustainable Forest Management in Cross River State, Nigeria (2013) Journal of Agricultural Research and Development at 71.

¹⁶⁷⁰ World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigeria-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January.

¹⁶⁷¹ T Sunderland, Cross River Community Projects Timber Product: Non-Timber Forest Advisor Report (ERM 2001) 19.

¹⁶⁷²T Sunderland, Cross River Community Projects Timber Product: Non-Timber Forest Advisor Report (ERM 2001) 19.

This chapter also presented and assessed the forest-related policies, laws, and programmes against the NCCFROs. The forest policy and NARF reflect the NCCFROs, especially SFM. However, there is no evidence on the ground that both the forest policy and NARF has implemented SFM to regrow Nigeria's forest areas and reduce emissions in the AFOLU sector except the Ekiru community of CRS.

This chapter also examined the energy policies of Nigeria, such as NREEEP, NEP, and NGP. These energy policies contained strategies that will help the Nigerian government address drivers of deforestation, especially the extraction of wood fuel from the forest. However, the NREEEP, NEP, and NGP deal with only wood fuel extraction for cooking, but they do not address other drivers of deforestation. There are also legislation indirectly regulating climate change, such as the EIA, the Nigerian Urban, Regional Planning Act, the Minerals and Mining Act, which may control deforestation. These laws were not deliberately enacted to achieve the NCCFROs as they were long existed before the Paris Agreement and SDGs as well as the Nigeria NDC commitments.

Aside from the policies and the laws, this chapter also analysed the forest related programmes and projects the Nigerian government has embarked on. Most of the projects were abandoned due to a lack of funding. But the following programmes, such as the GGW, the green bond, and the REDD+ readiness programme are still in existence, and they are capable of improving the forest areas and reducing emissions in the forest sector. The GGW was in existence since 2005. It has not made any substantial impact to improve Nigeria's forest area. The green bond programme started in 2017, and it is new. However, the amount of Nigeria's green bonds appears small compared to other countries. This means there is a need to increase the amount of green bond programmes to improve forest regrowth and reduce emission in the AFOLU sector of Nigeria.

Regarding the REDD+ readiness programme, this programme may strengthen forest management in Nigeria. As already highlighted above, The REDD+ readiness programme established the National Forest Monitoring System and GIS laboratory, REDD+ draft strategy, and many others. However, the readiness programme was concluded in 2016 in CRS. It was meant to be adopted in all the 36 states of Nigeria, which has not been perfected. This means the effectiveness of this programme to restore forests and reduce emissions in the AFOLU sector is yet to be seen. In sum, the forest-related policies, laws, and programmes and projects existing in Nigeria have not translated to significant improvement of forest areas in Nigeria that will reduce GHG emissions in the AFOLU sector and achieve the NCCFROs in the coming years.

CHAPTER 7

THE ROLES OF THE EXISTING INSTITUTIONS IN IMPLEMENTING CLIMATE CHANGE OBLIGATIONS IN NIGERIA

7.1 INTRODUCTION

The previous chapters have identified the laws, the policies, and the programmes the Nigerian government has initiated to integrate climate change obligations, key SDGs, and the Nigeria NDC at the domestic level.¹⁶⁷³ The implementation of the policies and programmes at the national level does require both new and the existing climate change related institutions. The UNFCCC clearly states that strengthening national institutions is key to achieving climate change obligations.¹⁶⁷⁴ Similar provisions are contained in the Kyoto Protocol,¹⁶⁷⁵ SDG target 13:3 and Article 11(5) of Paris Agreement.¹⁶⁷⁶ These provisions are to the effect that ‘appropriate institutional arrangement’ is needed to support the implementation of the Agreement.¹⁶⁷⁷

The seventh session of the Conference of the Party (COP) to the UNFCCC held at Marrakesh provides a framework for capacity building.¹⁶⁷⁸ In this framework, it clearly states that an ‘[e]xisting national institutions have an important role to play’ at the domestic level and that

¹⁶⁷³See Chapter 4 and 5.

¹⁶⁷⁴Article 6 (b) ii UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2020].

¹⁶⁷⁵Article 10 (e) UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997

¹⁶⁷⁶Article 11 (5) UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2020].

¹⁶⁷⁷Article 11 (5) UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2020].

¹⁶⁷⁸B Müller, Pocket Guide to Capacity Building for Climate Change (ed 2018 ecbi) 7 available at <https://ecbi.org/sites/default/files/FINAL-Capacity-Building_0.pdf > Accessed 12 April 2020.

capacity building should be mobilised within existing national institutions.¹⁶⁷⁹ The emphasis of the above provisions suggests that the existing climate change related institutions in Nigeria play a key role in actualising the climate change obligations, SDGs, and the Nigeria NDC. This is in line with the principle of common but differentiated responsibilities (CBDR) which encourages developing countries to act based on their capacity.¹⁶⁸⁰ Therefore, this chapter aims to identify the key existing climate change institutions (Ministries, Departments and Agencies (MDAs) particularly, the role they play to support the Nigerian government and achieve the climate change obligations in the coming years.

This chapter is organised into two main segments. The first segment discusses the role of the Department of Climate Change—the primary climate change agency in Nigeria. This segment assesses the role and performance of the Department of Climate Change against three main climate change obligations such as the duty of reporting,¹⁶⁸¹ the duty to carry out climate change education and awareness,¹⁶⁸² and the role of accessing climate change funds.¹⁶⁸³ The second segment analyses other key relevant MDAs especially, the collaborative role among the MDAs to jointly implement the climate change obligations at the national level.

7.2 CLIMATE CHANGE INSTITUTIONS IN NIGERIA

The following are some of the key relevant existing climate change-related MDAs in Nigeria. The most important institutions are the Department of Climate Change within the Federal

¹⁶⁷⁹ United Nations Framework Convention on Climate Change, Report of The Conference Of The Parties On Its Seventh Session, Held At Marrakesh From 29 October to 10 November 2001 FCCC/CP/2001/13/Add.1 < <https://unfccc.int/resource/docs/cop7/13a01.pdf> > Accessed 2nd March 2020 paragraph 9 and 11 > Accessed

¹⁶⁸⁰ See chapter three at 3.5.2 common but differentiated responsibilities.

¹⁶⁸¹ discussed 7.2.3.1.

¹⁶⁸² discussed in 7.2.3.2.

¹⁶⁸³ discussed 7.2.3.3.

Ministry of Environment, the Ministry of Power, the Rural Electrification Agency, the office of senior special assistant to the president on SDGs. These existing MDAs are relevant, and they play key roles that will help the Nigerian government to achieve the Nigeria Climate Change International Obligations (NCCIOs). The following discussion focuses on the key role of the Federal Ministry of Environment and Department of Climate Change while the Ministry of Power, the Rural Electrification Agency, the office of senior special assistant to the President on SDGs are discussed in section 7.3.¹⁶⁸⁴

7.2.1 THE ROLE OF THE FEDERAL MINISTRY OF ENVIRONMENT

Environmental issues in Nigeria were fragmented and spread across different ministries until the Federal Ministry of Environment (FME) was created in 1999.¹⁶⁸⁵ For the first time in Nigeria, a ministry of environment was created to ensure effective coordination of all environmental issues in Nigeria.¹⁶⁸⁶ One of the most important mandates of the FME is to maintain the ecosystem, preserve biodiversity, and raise public awareness of environmental issues.¹⁶⁸⁷ As a coordinating body dealing with all environmental matters, the FME has six agencies that deal with different environmental issues and eight technical divisions including a technical Department of Climate Change which is dedicated to tackling climate change related issues in Nigeria.¹⁶⁸⁸ The concern of this segment is not to analyse the various agencies and the technical divisions imbedded in the FME but the technical Department of Climate Change which is relevant to this topic.

¹⁶⁸⁴ 7.3 MDAs indirectly dealing with climate change and committee on climate change.

¹⁶⁸⁵ Federal Ministry of Environment > <http://environment.gov.ng/> > accessed 12 March 2019; Environmental Assessment of Ogoniland' (United Nation Environmental Programme 2011) 36 < https://postconflict.unep.ch/publications/OEA/UNEP_OEA.pdf > accessed 12 March 2020.

¹⁶⁸⁶ Ibid.

¹⁶⁸⁷ Ibid.

¹⁶⁸⁸ Federal Ministry of Environment > <http://environment.gov.ng/> > accessed 12 March 2019.

7.2.2 THE DEPARTMENT OF CLIMATE CHANGE

The Department of Climate Change (DCC) was born out of necessity to drive the national effort of climate change.¹⁶⁸⁹ This is because Nigeria is a member to the UNFCCC, Kyoto Protocol and there is a need to establish a department to implement the climate change agreements the Nigerian government has signed. This led to the establishment of the DCC.¹⁶⁹⁰ The DCC was formally known as the Special Climate Change Unit established in 2006.¹⁶⁹¹ It was later upgraded to the Department of Climate Change in 2011 to demonstrate Nigeria's commitment to the climate change regime.¹⁶⁹² As it stands, it is a technical department annexed to the FME which is dedicated specifically to climate change issues in Nigeria.¹⁶⁹³ The mandate of the DCC is 'to co-ordinate national implementation of United Nations Framework Convention on Climate Change, its protocol and any other legally binding agreements ...'¹⁶⁹⁴ What this means is that the DCC is the implementation agent of climate change agreements at the national level.¹⁶⁹⁵

It is important to note that the DCC receives minimal attention from academics. This is because the DCC is relatively new. The only known document that mentions the DCC is the Nigeria

¹⁶⁸⁹Department of Climate Change, Federal Ministry of Environment, < <https://climatechange.gov.ng/welcome-note-director-department-climate-change-3/> > Accessed 8th April 2020.

¹⁶⁹⁰Department of Climate Change < [Director's Message | Department of Climate Change](#) > Accessed 20 February 2021.

¹⁶⁹¹P Koblowsky and C Speranza, 'Institutional challenges to developing a Nigerian climate policy (2010). boris.unibe.ch 11; Department of Climate Change <http://climatechange.gov.ng/> > accessed 15 March 2019.

¹⁶⁹² Department of Climate Change <https://climatechange.gov.ng/about-us/department-of-climate-change/> > accessed 15 March 2019.

¹⁶⁹³ Department of Climate Change <http://climatechange.gov.ng/> > accessed 15 March 2019.

¹⁶⁹⁴Ibid <http://climatechange.gov.ng/about-us/department-of-climate-change/> > accessed 15 March 2019.

¹⁶⁹⁵ O Adejowo-Osho, 'Nigeria's commitments under the climate change Paris Agreement: legislative and regulatory imperatives towards ensuring sustainable development' 2019 Environment Africa 61-82 at 73; Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 6.

Biennial Report 2018 submitted to the COP.¹⁶⁹⁶ All information regarding the DCC in this research is from the Biennial Report 2018 and the website of the DCC.¹⁶⁹⁷

7.2.3 THE ROLE OF THE DCC

The DCC is structured into four divisions namely the Green House Gas division, Vulnerability and Adaptation division, Education, Awareness and Outreach Division and Mitigation division.¹⁶⁹⁸ The mitigation division is further divided into 4 units viz: The GHG Inventory unit, the flexible market mechanism unit, Sustainable Energy Unit and REDD+ Unit.¹⁶⁹⁹ Both the divisions and the mitigation units of the DCC are to carry out the following key functions: undertake an annual national inventory of GHG emission; prepare national communication under the UNFCCC; execute climate change education and public awareness programmes; and develop information sharing systems website and many others.¹⁷⁰⁰

The key functions of the DCC are similar to the climate change obligations imposed on the Nigerian government. For instance, Articles 4 and 12 of UNFCCC and Article (13) 7 of Paris Agreement imposes obligations on national government to report climate change activities,¹⁷⁰¹ Article 6 UNFCCC, Article 10 (e) Kyoto Protocol and Article 12 Paris Agreement encourages national government to carry out climate change education and awareness.¹⁷⁰² The achievement of these obligations depends on the DCC's capacity to implement the climate change

¹⁶⁹⁶Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 6.

¹⁶⁹⁷Department of Climate Change, Federal Ministry of Environment, <https://climatechange.gov.ng/about-us/> > accessed 15 March 2019.

¹⁶⁹⁸Ibid <http://climatechange.gov.ng/about-us/department-of-climate-change/> accessed 15 March 2019.

Mitigation division as the name implies is set out to deal with mitigation activities in the country. 15 March 2019

¹⁶⁹⁹ Ibid <https://climatechange.gov.ng/division/mitigation/> > accessed 15 March 2019.

¹⁷⁰⁰ Ibid <http://climatechange.gov.ng/about-us/department-of-climate-change/> > accessed 15 March 2019.

¹⁷⁰¹ See section 3.4.4 duty of reporting climate change activities.

¹⁷⁰² See section 3.4.3 climate change education.

obligations at the national level. Therefore, the role of the DCC is hereby assessed against the following obligations.

- A. Duty to report climate change activities.¹⁷⁰³
- B. Promote climate change education and awareness¹⁷⁰⁴ and
- C. Access to climate change funds.¹⁷⁰⁵

7.2.3.1 ASSESSMENT OF DCC AGAINST REPORTING OBLIGATION

Articles 4 and 12 UNFCCC and Article 13 (7) Paris Agreement places an obligation on member nations to report climate change activities at the national level. The Marrakesh Accord emphasises reporting duties as one of the capacity-building needs of developing country Parties.¹⁷⁰⁶ Reporting obligations are compulsory for all UNFCCC Parties¹⁷⁰⁷ and they are embedded in several COP decisions. For instance, developing countries are required to submit their first National Communications within three years of signing up to the UNFCCC.¹⁷⁰⁸ The National Communications are individual country's reports showing mitigation efforts on the impact of climate change.¹⁷⁰⁹ Non-Annex I Parties under the

¹⁷⁰³ Articles 4 and 12 UNFCCC and Article 13 (7) Paris Agreement.

¹⁷⁰⁴ Article 6 of the UNFCCC, Article 10 (e) Kyoto Protocol and Article 12 Paris Agreement.

¹⁷⁰⁵ Article 4 (3) (4) (5) UNFCCC (financial and technology transfer) Article 10 Paris Agreement (Financial transfer) Article 11 (1) 3 Paris Agreement (Capacity building) and Goal 1. Target 13. A.

¹⁷⁰⁶ United Nations Framework Convention on Climate Change, Report of The Conference of The Parties on Its Seventh Session, Held At Marrakesh From 29 October To 10 November 2001 FCCC/CP/2001/13/Add.1 < at page 10 < <https://unfccc.int/resource/docs/cop7/13a01.pdf> > Accessed 2nd March 2020.

¹⁷⁰⁷ J Ellis and M Rocha, Operationalising selected reporting and flexibility provisions in the Paris (2018 Organisation for Economic Co-operation and Development) at 19 available at < https://www.oecd.org/env/cc/Operationalising_selected_reporting_flexibility_provisions_PA.pdf > accessed 2nd April 2020.

¹⁷⁰⁸ United Nation Framework Conference on Climate Change, Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011 FCCC/CP/2011/9/Add.1 see Paragraph 14 < <https://unfccc.int/sites/default/files/resource/09a01.pdf> > Accessed 12 February 2020.

¹⁷⁰⁹ United Nation Framework on Climate Change, eHandbook > <https://unfccc.int/resource/bigpicture/> > accessed 28th December 28, 2019; United Nation Framework Conference on Climate Change, Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011 FCCC/CP/2011/9/Add.1 see Paragraph 14 < <https://unfccc.int/sites/default/files/resource/09a01.pdf> > Accessed 12 February 2020.

UNFCCC, mostly developing countries, are required to submit their first National Communications within three years of entering the UNFCCC.¹⁷¹⁰ The Bali Action Plan allows developing country Parties to take ‘Nationally Appropriate Mitigation Actions (NAMAs) in the context of sustainable development.’¹⁷¹¹ NAMAs are any actions taking at the national level by developing countries to reduce emissions of GHG.¹⁷¹² Those actions are required to be reported.¹⁷¹³ Similarly, the Cancun decision of COP specifically demanded developing countries to ‘submit Biennial Update Reports containing updates of national greenhouse gas inventories, including a national inventory report and information on mitigation actions, needs and support received.’¹⁷¹⁴ Paragraphs 61 and 62 of the Cancun Agreement provide that non-Annex I Parties should include Measure, Report and Verify (MRV) at the national level that will support mitigation actions.¹⁷¹⁵ MRV’s ‘information helps to understand the current emissions profile; enables estimates of emission reductions, allows future emissions to be targeted more effectively and helps responsible ministries and agencies to be accountable to domestic constituencies.’¹⁷¹⁶

The purpose of reporting is to track progress towards achieving Parties objectives and support provided and received.¹⁷¹⁷ This is vital as the Paris Agreement clearly states that providing

¹⁷¹⁰United Nation Framework on Climate Change, eHandbook > <https://unfccc.int/resource/bigpicture/> > accessed 28th December 28, 2019.

¹⁷¹¹ V Vandeweerd, The Bali Road Map: Key issues under negotiation (2008 UNDP Environment & Energy group) 30.

¹⁷¹² United Nation Framework Conference on Climate Change, Nationally Appropriate Mitigation Actions (NAMAs) < <https://unfccc.int/topics/mitigation/workstreams/nationally-appropriate-mitigation-actions> > accessed 12 March 2020

¹⁷¹³Ibid: R Morel and A Delbosc, ‘Financing climate actions in developing countries: What role is there for NAMAs’ 2012 (32) Research on the economics of climate change: CDC Climate Research. Climate Research, 14.

¹⁷¹⁴ United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1.

¹⁷¹⁵See decision 1/CP.16 United Nations Framework on Climate Change, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1 available <<https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>> accessed 10 March 2019.

¹⁷¹⁶ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 136.

¹⁷¹⁷ Article 13 (5) and (6) of the Paris Agreement; W Obergassel and H Wang-Helmreich, ‘Phoenix from the ashes: an analysis of the Paris Agreement to the United Nations Framework Convention on Climate Change; part 1 (2015) Wuppertal Institute for Climate, Environment and Energy, Germany.

information will help to track progress of the implementation of the national government regarding the NDCs which are key in achieving the objective of the Paris Agreement.¹⁷¹⁸ In other words, reporting climate change activities shows the institutions' effectiveness and capacity at the national level in tackling climate change.¹⁷¹⁹ This also shows the financial flows and responsibility of the climate change MDAs to give an account of fund received from donors and developed countries.¹⁷²⁰ This is the intention of Paris Agreement which emphasises transparency and predictability of funding advanced by developed countries.¹⁷²¹

Reporting climate change activities is one of the key roles of DCC. As already highlighted, the DCC has a GHG Inventory Unit.¹⁷²² The role of this Unit is to update the inventory database annually and database is used for the preparation of the National Communication.¹⁷²³ This database will help to calculate the existing emissions inventories which will help IPCC and the UNFCCC common reporting format (CRF) for all annual inventories.¹⁷²⁴ In other words, the setting up of the unit will help the Nigerian government to report climate change activities.¹⁷²⁵

The question is how far the DCC has carried out this function in line with Articles 4 and 12 of the UNFCCC and Article 13 (7) Paris Agreement?

An investigation into the reporting activities of the Nigerian government shows that the Nigerian government has yet to prepare and submit NAMA.¹⁷²⁶ However, the Nigerian

¹⁷¹⁸Article 13 (7) b UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2020]

¹⁷¹⁹ Jane Ellis and Sara Moarif, Identifying and Addressing Gaps in the UNFCCC Reporting Framework (2015 OECD) 11-14.

¹⁷²⁰Ibid, D Tirpak and A Ronquillo-Ballesteros, Monitoring climate finance in developing countries: challenges and next steps (2014) World Resources Institute. Washington, DC 1.

¹⁷²¹ Article 2 (1) (c) Paris Agreement.

¹⁷²² Ibid <http://climatechange.gov.ng/about-us/department-of-climate-change/> > accessed 15 March 2019

¹⁷²³Brief on Green House Division (GHG), Department of Climate Change < <http://climatechange.gov.ng/division/ghg/> > Accessed 15 March 2019..

¹⁷²⁴Department of Climate Change < <http://climatechange.gov.ng/division/ghg/> > accessed 15 March 2019.

¹⁷²⁵J Ellis and M Rocha, Operationalising selected reporting and flexibility provisions in the Paris (2018 Organisation for Economic Co-operation and Development) at 19 available at < https://www.oecd.org/env/cc/Operationalising_selected_reporting_flexibility_provisions_PA.pdf > accessed 2nd April 2020 .

¹⁷²⁶ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) at 18 ; However there is a

government had prepared and submitted its first National Communication on 17 Nov 2003 and second National Communication on 27 Feb 2014¹⁷²⁷ and the third National Communication in 2020.¹⁷²⁸ Nigeria has also submitted its first Biennial Report on the 17 March 2018.¹⁷²⁹ Comparing Nigeria's compliance level to other countries, Nigeria seems far behind. For instance, Singapore has submitted its National Communications 4 times as opposed to Nigeria.¹⁷³⁰ Republic of Korea, Ghana, and Mexico, have also submitted their fourth National Communication.¹⁷³¹ Regarding Biennial Reports, Nigeria submitted its first ever in 2018, compared to countries such as South Africa, Singapore, Namibia that have submitted their third Biennial Reports as of 2019.¹⁷³²

Compliance of the reporting obligations unveils the capacity of the national MDAs to carry out climate change activities at the national level. This is so because countries are assessed whether or not it has the relevant experts, the data to manage climate change activities based on reporting climate change activities at the national level.¹⁷³³ Investigation of the Biennial Report submitted by the Nigerian government revealed that the Nigerian government especially the DCC which has the responsibility of carrying out this function lacks data and experts and this

collaborative project between the United Nations Development Programme and the Nigerian government tagged 'De-risking Renewable Energy NAMA for the Nigerian Power Sector' available at Global Environment Facility < <https://www.thegef.org/project/de-risking-renewable-energy-nama-nigerian-power-sector> > accessed 20th September 2020 .

¹⁷²⁷ National Communication submissions from Non-Annex I Parties: <https://unfccc.int/process-and-meetings/transparency-and-reporting/reporting-and-review-under-the-convention/national-communications-and-biennial-update-reports-non-annex-i-parties/national-communication-submissions-from-non-annex-i-parties> > accessed 02 March 2019.

¹⁷²⁸ Federal Republic of Nigeria (2020) Third National Communication (TNC) of the Federal Republic of Nigeria Under the United Nations Framework Convention on Climate change (UNFCCC)

¹⁷²⁹ Biennial Update Report submissions from Non-Annex I Parties: <https://unfccc.int/BURs> > accessed 02 March 2019.

¹⁷³⁰ United Nations Framework Conference on Climate Change, National Communication submissions from Non-Annex I Parties < <https://unfccc.int/non-annex-I-NCs> > Accessed 6th March 2020.

¹⁷³¹ United Nations Framework Conference on Climate Change, National Communication submissions from Non-Annex I Parties < <https://unfccc.int/non-annex-I-NCs> > Accessed 6th March 2020.

¹⁷³² United Nations Framework Convention on Climate Change, Biennial Update Report submissions from Non-Annex I Parties available at < <https://unfccc.int/BURs> > accessed 4th April 2020.

¹⁷³³ Justine Garrett and Sara Moarif, Reporting on capacity-building and technology support under the Paris Agreement: Issues and options for guidance (2018) Organisation for Economic Co-operation and Development at 11.

may affect the capacity of reporting.¹⁷³⁴ For instance, the Biennial Report pointed out that information regarding Nigeria’s mitigation is insufficient and limited.¹⁷³⁵ According to the report, there is no centralised system of data collection on mitigation activities in the country.¹⁷³⁶ Some of the information available is inconsistent with IPCC and some information relating to mitigation is missing as well.¹⁷³⁷ This led to ‘heavy reliance on international data sources, extrapolations and expert judgment to generate missing activity data and fill gaps when estimating GHGs emissions and sinks within the country.’¹⁷³⁸

Again, some of the information that is available in Nigeria just contain the basics such as, the name of the programme, implementation agency, the objective. They did not contain information on the effect of the mitigation, emission avoided etc.¹⁷³⁹ This created information gaps on mitigation action and the emission avoided, the consequence of this is that ‘it is challenging to report on key factors such as progress indicator, steps taken or envisaged, progress of implementation, and results achieved.’¹⁷⁴⁰

Another issue is the lack of experts to compute GHG inventories.¹⁷⁴¹ According to the Biennial Report, both the first and second National Communications were prepared by individuals who worked with the government, consulting firms because of the lack of experts.¹⁷⁴² Additionally, there was no system in place to oversee and coordinate the steps of GHG inventory cycles for the compilation of data.¹⁷⁴³ It could be described as an *ad hoc* operation, and this is no longer

¹⁷³⁴ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 144-145.

¹⁷³⁵ Ibid.

¹⁷³⁶ Ibid.

¹⁷³⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 144-145

¹⁷³⁸ Ibid 144-145.

¹⁷³⁹ Ibid 145.

¹⁷⁴⁰ Ibid 145.

¹⁷⁴¹ Ibid 144-145.

¹⁷⁴² Ibid 138.

¹⁷⁴³ Ibid.

in line with Cancun Agreement regarding MRV rule¹⁷⁴⁴ which requires the national government to Measure, Report and Verify. This clearly shows that the DCC lacks experts to compute GHG inventories. Not only does the DCC lack experts, but it also lacks proper documentation. Even the Nigeria NDC document submitted to the COP acknowledged that ‘Nigeria does not have a full GHG inventory and accompanying MRV system.’¹⁷⁴⁵ This could be the reason why the country has not submitted its first NAMA and Adaptation Plan.¹⁷⁴⁶ According to the Biennial Report, Nigeria has not developed its first NAMA due to lack of capacity.¹⁷⁴⁷

Summarizing the situation of lack of data and required expertise in Nigeria, the Biennial Update Report (BUR1) stated that ‘Nigeria lacked a fully-fledged GHG inventory management system (IMS) and perfect institutional arrangements (IA) when producing the inventory for the BUR1.’¹⁷⁴⁸ These facts indicate that Nigeria might have set up GHG Inventory Divisions at the DCC and had also prepared and submitted the National Communications and Biennial Update Report but the effectiveness of the GHG Inventory Division which will help the reporting obligation remains doubtful.

¹⁷⁴⁴ See decision1/CP16, para 61 and 62 ; United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1 <https://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf> > accessed 3 March 2020.

¹⁷⁴⁵ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate Change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on 17

¹⁷⁴⁶ UNFCCC NAP Central, ‘National Adaptation Plans’ < https://www4.unfccc.int/sites/NAPC/News/Pages/national_adaptation_plans.aspx > Accessed 2nd April 2020.

¹⁷⁴⁷ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 145.

¹⁷⁴⁸ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 35.

7.2.3.2 ASSESSMENT OF DCC'S ROLE TO PROMOTE CLIMATE CHANGE EDUCATION AND AWARENESS

One of the key areas of a capacity building identified by the Marrakesh Accord is strengthening institutions to carry out climate change education, training and public awareness.¹⁷⁴⁹ The UNFCCC Article 6 and corresponding provisions in the Kyoto Protocol,¹⁷⁵⁰ the Paris Agreement¹⁷⁵¹ and SDG target 13:3 place an obligation on member states to develop and implement education and training programmes.¹⁷⁵² Specific key indicators of Article 6 UNFCCC are educating, training, creating public awareness, and public access to information.¹⁷⁵³

Implementation of Article 6 UNFCCC at the national level by the MDAs is very important.¹⁷⁵⁴ An informed public will make the right decision and response to climate change measures¹⁷⁵⁵ and even pressurise the government to implement climate change agreements and pledges.¹⁷⁵⁶ It will make citizens change their lifestyle to reduce emissions.¹⁷⁵⁷ Climate change education also helps policy makers to see the urgency necessitating measures to combat climate change.¹⁷⁵⁸ This is why the UNFCCC refers to work enhancing climate change education and

¹⁷⁴⁹ United Nations Framework Convention on Climate Change, Report Of The Conference Of The Parties On Its Seventh Session, Held At Marrakesh From 29 October To 10 November 2001 FCCC/CP/2001/13/Add.1 at 11 and 12 < <https://unfccc.int/resource/docs/cop7/13a01.pdf> > Accessed 2nd March 2020 .

¹⁷⁵⁰ Article 10 (e) Kyoto Protocol.

¹⁷⁵¹ Article 12 of Paris Agreement.

¹⁷⁵² Article 6 (b) ii UNFCCC.

¹⁷⁵³ United Nations Framework Climate Change Conference, Report on progress made in, and the effectiveness of, the implementation of the amended New Delhi work programme on Article 6 of the Convention FCCC/SBI/2012/3 < <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/03.pdf> > Accessed 10th April 2020.

¹⁷⁵⁴ A Reid, 'Climate change education and research: possibilities and potentials versus problems and perils?' (2019) 26 (6) Routledge 767-790 at 767.

¹⁷⁵⁵ United Nations Educational, Scientific and Cultural Organization, NOT JUST HOT AIR Putting Climate Change Education into Practice (2015 UNESCO) 5.

¹⁷⁵⁶ Ibid.

¹⁷⁵⁷ Ibid.

¹⁷⁵⁸ Ibid.

awareness, Article 6 as Action for Climate Empowerment.¹⁷⁵⁹ The question is to what extent has the DCC fulfilled Article 6 UNFCCC regarding climate change education?

The DCC has a division known as Education, Awareness and Outreach Division, responsible for improving education, training, and public awareness of climate change in Nigeria.¹⁷⁶⁰ The DCC claimed that the Nigerian government had made an effort to enhance public awareness of climate change.¹⁷⁶¹ Evidence gathered from the DCC website revealed that the Federal Ministry of Environment organised a workshop on February 2020 to sensitise the South West Region of the country to improve knowledge of climate change, creating awareness on how to access climate change funds and enhance the participation of subnational governments.¹⁷⁶² According to the DCC, this workshop is the third in the series.¹⁷⁶³ That the Federal Ministry of Environment through the DCC shared guidance note on climate change with climate change desks/units in state ministries in 2018.¹⁷⁶⁴ The FME through the DCC organised other workshops such as the National Consultative Workshop on gender and climate change in 2016,¹⁷⁶⁵ Clean Development Mechanism Capacity Enhancing Workshop 2015 etc.¹⁷⁶⁶

¹⁷⁵⁹ United Nations Framework Convention on Climate Change, what is Action for Climate Empowerment? Available at > [What is Action for Climate Empowerment? | UNFCCC](#) > Accessed 15th September 2021.

¹⁷⁶⁰Department of Climate Change, Education, Awareness & Outreach <http://climatechange.gov.ng/division/education/> > accessed 15 March 2019.

¹⁷⁶¹ Ibid.

¹⁷⁶²Department of Climate Change, Federal Ministry of Environment, ‘Two-Day South West Regional Sensitization Workshop on Climate Change’ (2018) available at < <https://climatechange.gov.ng/two-day-south-west-regional-sensitization-workshop-on-climate-change/> > Accessed 3rd April 2020

¹⁷⁶³ the first took place at the North-west region (Kaduna state) while the second was at the North – Central region held in Lafia, Nasarawa State.

¹⁷⁶⁴ Department of Climate Change, Federal Ministry of Environment, ‘Validation Workshop on: Toolkit for the establishment and capacity development of climate change desks/units in state ministries of environment and relevant MDAs’ (2018) available at < <https://climatechange.gov.ng/validation-workshop-toolkit-establishment-capacity-development-climate-change-desksunits-state-ministries-environment-relevant-mdas/> > Accessed 3rd April 2020.

¹⁷⁶⁵ Department of Climate Change, Federal Ministry of Environment, ‘Nigeria engages Paris Agreement to drive gender, youth agenda’ (2016) available at < <https://climatechange.gov.ng/nigeria-engages-paris-agreement-to-drive-gender-youth-agenda/> > accessed 19 April 2020.

¹⁷⁶⁶ Department of Climate Change, Federal Ministry of Environment, ‘training: CDM Capacity Enhancing Workshop’ (2015) available at < <https://climatechange.gov.ng/training-materials-at-cdm-capacity-enhancing-workshop-released/> > Accessed 3rd April 2020.

Aside from DCC, the National Emergency Management Agency,¹⁷⁶⁷ Nigeria Meteorological Agency and the Nigeria Hydrological Services Agency also play a role in climate change education and awareness in Nigeria. For instance, the Nigerian meteorological Agency activities such as issuing warning for floods¹⁷⁶⁸ weather forecasting, predicting the impacts of drought and desertification¹⁷⁶⁹ go along way to inform the public about the imminent danger of climate change. Also, an intergovernmental organisation such as UNESCO offers climate change education to several members of the UNFCCC including Nigeria. For example, UNESCO Global Action Programme on Education for Sustainable Development commits to hosting an innovative workshop in Nigeria which will train 300 youths ‘on best agricultural practices for sustainable development.’¹⁷⁷⁰ The plan is also to develop a curriculum that will form the basis for a workshop for secondary school students in Nigeria.¹⁷⁷¹

However, in practice, climate change education and awareness among Nigerians are low.¹⁷⁷² Studies show that most Nigerians, both rural and urban, know little or nothing about climate change impacts and adaptation strategies to fight climate change.¹⁷⁷³ This is also applicable to most Nigerian farmers. Most of them are unaware of the impacts of climate change on

¹⁷⁶⁷ N Ozor and E C Amaechina, ‘A framework for agricultural adaptation to climate change in Southern Nigeria (2012) 4 (5) International Journal of Agriculture Sciences 243-252 at 264.

¹⁷⁶⁸ Section 7 (1) (c) Nigeria Hydrological Services Agency (Establishment) Act, 2010.

¹⁷⁶⁹ Section 7 (1) (d) Nigerian Meteorological Agency (Establishment) Act, NO. 9 2003.

¹⁷⁷⁰ United Nations Educational, Scientific and Cultural Organization, Profile booklet Key Partners of the Global Action Programme on Education for Sustainable Development (2016 UNESCO) 95-96 available at < <https://sustainabledevelopment.un.org/content/documents/2412unesco.pdf> > Accessed 10th April 2020 .

¹⁷⁷¹ United Nations Educational, Scientific and Cultural Organization, Profile booklet Key Partners of the Global Action Programme on Education for Sustainable Development (2016 UNESCO) 95-96 available at < <https://sustainabledevelopment.un.org/content/documents/2412unesco.pdf> > Accessed 10th April 2020.

¹⁷⁷² Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013 at 55.

¹⁷⁷³ U Ekpoh and J Ekpoh, ‘Assessing the level of climate change awareness among secondary school teachers in Calabar municipality, Nigeria: implication for management effectiveness (2011) 1(3), International Journal of Humanities and Social Science, 106-110 at 106.

agriculture.¹⁷⁷⁴ Even students and teachers in formal institutions of learning exhibit low knowledge of the impacts of climate change and the danger it poses.¹⁷⁷⁵

The lack of knowledge of climate change among Nigerians is clear, especially, the citizens' docile attitude towards government. In the UK and Canada, citizens have filed climate change litigation in court to compel the government to enforce climate change targets because the citizens are aware of the consequences of climate change.¹⁷⁷⁶ In the UK, there are about 61 climate change litigation cases,¹⁷⁷⁷ Canada has 21 cases,¹⁷⁷⁸ while South Africa has 4.¹⁷⁷⁹ Compared to Nigeria, where there is only one known case since 2005.¹⁷⁸⁰

The DCC might have convened meetings and workshops to educate people on climate change but there seems no clear strategy to get climate change information across to a large population like Nigeria or training programmes to drive climate change education according to Article 6 UNFCCC at the national level. This shows that the DCC must do more to educate Nigerians on climate change and education and awareness. Academics recommend that climate change education and awareness be made part of the curriculum of universities so as to aid students to

¹⁷⁷⁴O Nwagbara and U C Okugo, 'The Role of Radio in Creating Awareness of Climate Change Among Crop Farmers in Abia State (2018) 14 (1) *Nduñode* at 234-249.

¹⁷⁷⁵E Eze, 'Sociographic analysis of climate change awareness and pro-environmental behaviour of secondary school teachers and students in Nsukka Local Government Area of Enugu State, Nigeria' (2020) 29(1) *International Research in Geographical and Environmental Education*, 89-105 at 89 ; U Ekpoh and J Ekpoh, 'Assessing the level of climate change awareness among secondary school teachers in Calabar municipality, Nigeria: implication for management effectiveness (2011) 1(3), *International Journal of Humanities and Social Science*, 106-110 at 106 .

¹⁷⁷⁶ *Plan B Earth and Others v. The Secretary of State for Business, Energy, and Industrial Strategy* [2018] 16 EWHC 1892 (HL); *Vince et al. v. Secretary of State for Business, Energy, and Industrial Strategy et al.* [2020] 1832 (HC) pending.

¹⁷⁷⁷ Grantham Research Institute on Climate Change and the Environment < <https://climate-laws.org/cclow/geographies/united-kingdom> > Accessed 15th April 2020.

¹⁷⁷⁸ Grantham Research Institute on Climate Change and the Environment <https://climate-laws.org/cclow/geographies/canada> > Accessed 15th April 2020.

¹⁷⁷⁹ Grantham Research Institute on Climate Change and the Environment <https://climate-laws.org/cclow/geographies/south-africa> > Accessed 15th April 2020.

¹⁷⁸⁰ *Shell v Gbemre* Federal High Court of Nigeria Benin Judicial Division Suit No: fhc/b/cs/53/05 (Judgment of 14 November 2005); Grantham Research Institute on Climate Change and the Environment <https://climate-laws.org/cclow/geographies/nigeria> > Accessed 15th April 2020.

understand climate change issues and strategies of adaption at the local level.¹⁷⁸¹ This is also the position of the African Ministerial Conference on the Environment (AMCEN).¹⁷⁸² These suggestions are in line with the climate change regime as many countries have started integrating climate change into educational curricula. Countries like Italy¹⁷⁸³ and USA (for instance, in New Jersey)¹⁷⁸⁴ have incorporated climate change into the school curriculum. Aside from integration of climate change into educational curricula, some academics are of the view that using a radio station to create awareness will be effective to help farmers understand climate change issues.¹⁷⁸⁵ It is important to note that these suggestions ranging from integrating climate change into educational curricula, the use of communication tools to educate Nigerians such as radio, newspapers, movies etc are contained in the National Policy of Climate Change 2013 (NPCC).¹⁷⁸⁶ Yet climate change education and awareness in Nigeria are considered poor.

7.2.3.3 THE DCC's CAPACITY TO ACCESS FUND

Before assessing the DCC's capacity to access funds, first, there is a need to know why the Nigerian government needs funds and second, the funds available for developing countries to access. These points are discussed seriatim.

¹⁷⁸¹A Ayanlade and M Jegede, 'Climate change education and knowledge among Nigerian University graduates (2016) 8(4), *Weather, Climate, and Society*, 465-473 at 472; N Rose, 'Climate Change Education in Nigeria: The Role of Curriculum Review' (2016) 5(3) *education* 71-79; A Nebechi and O Okoro, 'The Teacher and the Teaching of Climate Change: A Case Study of Obio-Akpor Local Government Area of Rivers State Nigeria' (2016) 4 (1) *Scientific Research Journal (SCIRJ)* 30-35.

¹⁷⁸² AMCEN is made up of African ministers of environment to halt environmental degradation in the African continent see *History of the African Ministerial Conference on the Environment 1985 – 2005*, 1 < https://wedocs.unep.org/bitstream/handle/20.500.11822/8876/AMCEN_History.pdf?sequence=3&%3BisAllowed=> accessed January 6, 2019.

¹⁷⁸³ B Pytel, *Climate Action Italy becomes the first country to require climate change studies in schools*, (Climate Action 2019) available at <https://www.earthday.org/italy-first-country-climate-change-studies-in-schools/> > Accessed 5th July 2020 .

¹⁷⁸⁴ D Williams, *New Jersey is the first state to add climate change to its K-12 education standards*, (CNN June 4 2020) available at < <https://edition.cnn.com/2020/06/04/us/new-jersey-climate-schools-scen-trnd/index.html> > Accessed 5th July 2020 .

¹⁷⁸⁵O Nwagbara and U C Okugo, 'The Role of Radio in Creating Awareness of Climate Change Among Crop Farmers in Abia State (2018) 14 (1) *Índuñode* at 234-249; N P Duru and C F Emetumah, 'Evaluating the Effects of Information Literacy on Climate Change Awareness among Students in Imo State University (2016) 4(3) *Archives of Current Research International*, 1-10 at 3.

¹⁷⁸⁶Federal Ministry of Environment, Department of Climate Change, *National Policy on Climate Change 2013* at 55.

7.2.3.3.1 THE NEED FOR CLIMATE CHANGE FINANCE

As rightly highlighted in chapter 3, the CBDR urged developed countries to help developing countries fulfil their obligations.¹⁷⁸⁷ This includes providing financial support to developing countries.¹⁷⁸⁸ This is because most countries do not have the financial capacity to undertake the NDC pledges made under the Paris Agreement.¹⁷⁸⁹ For instance, the Nigerian government clearly states that it could only cut 45% emissions reduction if it receives financial support, technology transfer, and capacity building from developed countries.¹⁷⁹⁰ On the other hand, if the Nigerian government receives no aid from developed countries, it would only reduce 20% instead of 45%.¹⁷⁹¹ The reason for Nigeria partly relying on the support of the developed country to fulfil its pledge is that implementing low carbon pathways at the national level is expensive. The World Bank estimate of the national cost of low carbon pathway for Nigeria is \$142b (£109.2b) as of 2013.¹⁷⁹² Compare the cost to Nigeria's entire 2020 budget, which cut across all sectors, was estimated at ₦10.59 trillion (\$35bn) (£26b).¹⁷⁹³ This means if Nigeria were to dedicate the whole of its annual budget to fight climate change, it might take several decades to achieve a low carbon pathway. Though low carbon pathway may cost Nigeria \$142b (£109.2b), the benefit was estimated by the Nigeria NDC as \$304b

¹⁷⁸⁷ See chapter 3 section 3.3.2 Common but Differentiated Responsibilities.

¹⁷⁸⁸S Vanderheiden, 'Justice and climate finance: Differentiating responsibility in the Green Climate Fund (2015) 50 (1) The International Spectator, 31-45 at 31; I Mitchell and A Tahmasebi, Is Climate Finance Towards \$100 Billion "New and Additional"?' (2021) Center for Global Development at 1-17. OXFAN, Climate Finance Shadow Report 2020 Assessing Progress Towards The \$100 Billion Commitment (2020 REPORT) 2 available at [Climate Finance Shadow Report 2020: Assessing progress towards the \\$100 billion commitment \(openrepository.com\)](https://climatefinance.shadowreport.com/) >Accessed 15th September 2021; A Bowen, 'Raising climate finance to support developing country action: some economic considerations (2011) 11 (3) Climate policy.1020-1036.

¹⁷⁸⁹M Fonta and T van Huysen, 'Africa and the Green Climate Fund: current challenges and future opportunities (2018) 18(9) Climate policy 1210-1225 at 1211.

¹⁷⁹⁰ Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment. 9

¹⁷⁹¹Ibid.

¹⁷⁹²Ibid 3.

¹⁷⁹³Aljazeera, 'Nigeria's parliament passes record budget for 2020' (2019) <
<https://www.aljazeera.com/ajimpact/nigeria-parliament-passes-record-budget-2020-191205181608971.html> >
Accessed 2nd April 2020.

(£233.8b);¹⁷⁹⁴ not fighting it at all will cost Nigeria to lose ‘GDP of between 6% and 30% by 2050, worth an estimated US\$100 (£76.9b) to \$460 (£353.8b) billion.’¹⁷⁹⁵ Therefore, the Nigerian government must ensure access to international funding to meet its climate change obligation and NDC at the national level.

7.2.3.3.2 THE AVAILABLE CLIMATE FINANCES

Article 4 (3) (4) (5) UNFCCC, Article 9 (1) 10 (1) Paris Agreement and, Article 11 (1) 3 Paris Agreement placed an obligation on developed country Parties to provide both financial resources and technology to developing country Parties to fulfil the objective of climate change regime.¹⁷⁹⁶ This is also the position of SDG target 13: A, which refers to the commitment made by the developed country Parties under the climate change regime by addressing the financial needs of developing country Parties.¹⁷⁹⁷ Again, financial support of developing countries by developed countries is also one of the areas the Marrakesh Accord highlighted as one of the capacity building needs of developing countries.¹⁷⁹⁸

¹⁷⁹⁴Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 3.

¹⁷⁹⁵ Federal Ministry of Environment Abuja, Nigeria (Special Climate Change Unit) (2010) ‘National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria 8.

¹⁷⁹⁶R Morel and A Delbosq, ‘Financing climate actions in developing countries: What role is there for NAMAs. Research on the economics of climate change: CDC Climate Research (2012) 32 Climate Research at 5.

¹⁷⁹⁷SDG 13target A encourage developed country Parties to ‘Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible’ see UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 201.

¹⁷⁹⁸ United Nations Framework Convention on Climate Change, Report Of The Conference Of The Parties On Its Seventh Session, Held At Marrakesh From 29 October To 10 November 2001 FCCC/CP/2001/13/Add.1 at paragraph 20 < <https://unfccc.int/resource/docs/cop7/13a01.pdf> > Accessed 2nd March 2020.

To fulfil the financial obligation, the UNFCCC adopted the Global Environmental Facility as an existing financial mechanism since the UNFCCC entered into force.¹⁷⁹⁹ Aside from the Global Environmental Facility, Article 13(4) of the Kyoto Protocol empowers the COP to create additional finances for the purpose of fulfilling the Protocol. At COP 21 in 2010, member nations created the Green Climate Fund and subsequently created the Special Climate Change Fund, Adaptation Fund, and the Least Developed Countries Fund.¹⁸⁰⁰ The Kyoto Protocol¹⁸⁰¹ and the Paris Agreement¹⁸⁰² reiterate and refer to Industrialised Parties' financial commitment made under the UNFCCC. The above financial mechanisms are to serve both the Protocol and the Paris Agreement. This is captured in the Paris Agreement when it states that, 'Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention.'¹⁸⁰³

Over the years, developed countries pledged to mobilise \$100 billion a year by 2020 to developing countries to fight climate change at the national level.¹⁸⁰⁴ The OECD claimed that climate change funds provided by developed countries to developing countries amounted to \$78.9 billion in 2018.¹⁸⁰⁵ Though, there are few concerns relating to the \$100 billion goals.¹⁸⁰⁶

¹⁷⁹⁹ United Nations Framework on climate Change, Decision 8/CP.21, Report of the Global Environment Facility to the Conference of the Parties and guidance to the Global Environment Facility FCCC/CP/2015/10/Add.2. available at > <https://unfccc.int/resource/docs/2015/cop21/eng/10a02.pdf#page=13> > accessed 2nd November 2018.

¹⁸⁰⁰ United Nations Framework on Climate Change, Decision 8/CP.21, Report of the Global Environment Facility to the Conference of the Parties and guidance to the Global Environment Facility FCCC/CP/2015/10/Add.2. available at > <https://unfccc.int/resource/docs/2015/cop21/eng/10a02.pdf#page=13> > accessed 2nd November 2018.

¹⁸⁰¹ See generally Article 11 (2) a UNFCCC (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.

¹⁸⁰² Article 9 (1) of Paris Agreement.

¹⁸⁰³ Article 9 (1) of Paris Agreement.

¹⁸⁰⁴ United Nations Climate change, Copenhagen Climate Change Conference - December 2009, available at , [Copenhagen Climate Change Conference - December 2009 | UNFCCC. Accessed 2nd April.](#)

¹⁸⁰⁵ OECD, Climate finance for developing countries rose to USD 78.9 billion in 2018 available at [Climate finance for developing countries rose to USD 78.9 billion in 2018 - OECD](#) Accessed 2nd April 2021.

¹⁸⁰⁶ Paris climate talks: Indian officials accuse OECD of exaggerating climate aid <http://www.theguardian.com/environment/2015/dec/02/parisclimate-talks-indian-officials-accuse-rich-countries-of-exaggeratingclimate-aid> > accessed 7th April 2021.

Critics argued that climate change funds provided to developing countries are far less than \$100 billion.¹⁸⁰⁷ The argument is that around 42% of the money offered to developing countries is part of debt instruments such as loans to be paid back in the future.¹⁸⁰⁸ Aside from that, private donations consisted of the money given to developing countries.¹⁸⁰⁹ The contention is that only public finance or grants should be counted towards the \$100 billion goals, and loans and other non-grant instruments to developing countries do not constitute assistance.¹⁸¹⁰ Again, there are concerns that the \$100 billion goal might not be met due to COVID 19 pandemic as well as countries that have withdrawn from the Paris Agreement. For instance, the USA was the top contributor to the multilateral Green Climate Fund in 2016 but has stopped its support.¹⁸¹¹ However, the new Biden US-led administration promised to recommit to the Green Climate Fund.¹⁸¹²

Despite the criticisms of the \$100b funds pledged by developed countries to assist developing countries, it is a fact that developed countries have provided funds for developing countries, especially the multilateral funds where developing countries are expected to go through multinational Development Banks. Several developing countries that have met the conditions

¹⁸⁰⁷ Ministry of Finance, Government of India, 'Climate Change Finance, Analysis of a Recent OECD Report: Some Credible Facts Needed 2015.; Tracy Carty, Climate Finance Shadow report 2020: Assessing Progress Towards the \$100 Billion Commitment, 2020 (OXFAM international 2020) available at: <https://www.oxfam.org/en/research/climate-finance-shadow-report-2020> > accessed 4th April 2021.

¹⁸⁰⁸ Joycelyn Timperley, Interactive: How climate finance 'flows' around the world (Carbon Brief) available at [Interactive: How climate finance 'flows' around the world | Carbon Brief > Accessed 1st April.](#)

¹⁸⁰⁹ On the contrary Parties at COP 16 made it clear that the 100 billion may come from both private and public sources see delivering on the \$100 billion climate finance commitment and transforming climate finance independent expert group on climate finance December 2020 available at [*100 billion climate finance report.pdf \(un.org\) > accessed 5th April 2020.](#)

¹⁸¹⁰ Ministry of Finance, Government of India, 'Climate Change Finance, Analysis of a Recent OECD Report: Some Credible Facts Needed 2015.; Tracy Carty, Climate Finance Shadow report 2020: Assessing Progress Towards the \$100 Billion Commitment, 2020 (OXFAM international 2020) available at: <https://www.oxfam.org/en/research/climate-finance-shadow-report-2020> > accessed 4th April 2021.

¹⁸¹¹ Joycelyn Timperley, Interactive: How climate finance 'flows' around the world (Carbon Brief) available at [Interactive: How climate finance 'flows' around the world | Carbon Brief > accessed 1st April.](#)

¹⁸¹² J. Thwaites, 4 Climate Finance Priorities for the Biden Administration (World Resources Institute 2021) available at < [Top 4 Climate Finance Priorities for the Biden Administration | World Resources Institute \(wri.org\)](#)> Accessed 15th September 2021.

have accessed these funds for climate change projects at the national level.¹⁸¹³ The next subtopic assesses the capacity of DCC to access the available climate change funds to supplement national effort to meet Nigeria's climate change obligations.

7.2.3.4 ASSESSMENT OF THE DCC PERFORMANCE IN ACCESSING CLIMATE CHANGE FUNDS

This section uses the most well-known climate change funds such as the Green Climate Fund and Adaptation Fund¹⁸¹⁴ to assess the performance of the DCC's access to climate change funds. This assessment does not critique the Green Climate Fund¹⁸¹⁵ and Adaptation Fund¹⁸¹⁶ but shows how the Nigerian government has been accessing climate change funds from these institutions.¹⁸¹⁷ This research shows that the Nigeria DCC is not among the Green Climate Fund and Adaptation Fund accredited entities.¹⁸¹⁸ National climate change implementation agencies that fulfil accreditation conditions, for instance, with the Adaptation Fund, have direct access to the fund without going through international organisations such as the World Bank

¹⁸¹³ Such as Kenya, South Africa see World Resources Institute, 3 Ways to Help Developing Countries Get Direct Access to Climate Finance available at < <https://www.wri.org/blog/2015/12/3-ways-help-developing-countries-get-direct-access-climate-finance> > Accessed 21st March 2020.

¹⁸¹⁴ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 1 https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf > Accessed 21st March 2020.

¹⁸¹⁵ Some of the criticisms of the GCF are 1. Just a few African countries are benefiting from the GCF while many African countries are yet to access the fund. 2. the GCF hold a very narrow view of climate change adaptation and as such GCF refuse giving fund for projects appears addressing development at the national level. See W M Fonta and T Huysen, 'Africa and the Green Climate Fund: current challenges and future opportunities (2018) 18 (9) Climate policy, 1210-1225 at 1211.

¹⁸¹⁶ Key criticism of the adaptation fund is that the criteria of receiving the fund does not follow Article 7 (6) of the Paris Agreement which aim is to prioritise developing countries that are vulnerable to the adverse impacts of climate change. Rather allocation of adaptation funds is premised on the ability of the recipients to access, manage, and implement the fund. See D Doshi and M Garschagen, 'Understanding Adaptation Finance Allocation: Which Factors Enable or Constrain Vulnerable Countries to Access Funding?' 2020 (12) 10 Sustainability, 2-18 ; D Puig and K Alverson, The Adaptation Finance Gap Report; United Nations Environment Programme: Nairobi, Kenya, 2016; F Weiler, and C Klöck, 'Donor interactions in the allocation of adaptation aid: A network analysis' (2021) 7 Earth System Governance, 2-11 ; M Khan and J T Roberts, J.T., 'Twenty-five years of adaptation finance through a climate justice lens' 2020(161) (2) Climatic Change, 251-269.

¹⁸¹⁷ Green Climate Fund and Adaptation Fund.

¹⁸¹⁸ Adaptation Fund, Accredited Implementing Entities as at March 2020 available at < <https://www.adaptation-fund.org/wp-content/uploads/2020/03/Accreditation-status-of-the-Implementing-Entities-March-2020.pdf> > Accessed 4th April 2020 ; Adaptation Fund, National Implementing Entities available at < <https://www.adaptation-fund.org/apply-funding/implementing-entities/national-implementing-entity/> > Accessed 4th April 2020.

to access the fund. Several existing funds require national governments to go through multilateral or bilateral institutions to manage any funds given to developing countries. A good example is the Clean Technology Fund, which uses regional banks, the World Bank, and many others as financial intermediaries.¹⁸¹⁹ To get accreditation and have direct access to the climate change funds means national institutions need not go through these financial intermediaries; that is, national institutions can access the fund without going through the World Bank, Regional Banks (intermediaries).¹⁸²⁰

Though the DCC has been appointed as the National Designated Authority as a contact point to the Adaptation Fund,¹⁸²¹ one of the key responsibilities of the National Designated Authority is to issue nomination letters to entities to access the Accreditation Fund directly. The National Designated Authority also ensures that fund proposals are in line with the national strategic priorities, frameworks, strategies, and policies.¹⁸²² The DCC claimed that it had established a Climate Finance Unit to enhance climate finance opportunities.¹⁸²³ According to the DCC, the Nigeria Bank of Industry is almost at the final stage of getting accreditation as a national entity to the Adaptation Fund.¹⁸²⁴ Comparing the DCC to other similar institutions such as the National Environment Management Authority (NEMA), Kenya,¹⁸²⁵ and the South African

¹⁸¹⁹ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 1 https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf > accessed 23rd February 2021.

¹⁸²⁰ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 1 https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf > accessed 23rd February 2021.

¹⁸²¹ Adaptation Fund, Parties' Designated Authorities available at < <https://www.adaptation-fund.org/apply-funding/designated-authorities/> > Accessed 4th April 2020.

¹⁸²² See Food and Agriculture Organisation for United Nations, Manual for the operations of the National Designated Authority for engagement with the Green Climate Fund (2019) at 15-20 < [Manual for the operations of the National Designated Authority for engagement with the Green Climate Fund \(fao.org\)](#) > accessed 23 February 2021.

¹⁸²³ Department of Climate Change, Federal Ministry of Environment < <https://climatechange.gov.ng/coordination-and-climate-finance-in-nigeria/> > Accessed 8th February 2020

¹⁸²⁴ Department of Climate Change, Federal Ministry of Environment < <https://climatechange.gov.ng/coordination-and-climate-finance-in-nigeria/> > Accessed 8th February 2020.

¹⁸²⁵ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 7 <https://wriorg.s3.amazonaws.com/s3fs->

National Biodiversity Institute (SANBI), South Africa,¹⁸²⁶ both South Africa and Kenya have already been accredited with the Green Climate Fund and Adaptation Fund with their national institutions.¹⁸²⁷

Aside from this, the climate change funds the Nigerian government has received are less than countries with direct access to climate change funds. The National Agricultural Resilience Framework states that climate change funds received by the Nigerian government in 2015 were about US\$45.4 million (£35 million).¹⁸²⁸ However, Morocco has received about US\$366 million (£281million), Niger US\$115 million (£88.5 million), Mexico US\$743 million (£571.5million).¹⁸²⁹ Also, specific Green Climate Fund allocation shows that Nigeria has not performed very well. For instance, Morocco has total finance of about \$1.1b (£846b) with a total project value of \$4.1b (£3.2b).¹⁸³⁰ Kenya also has total financing of about \$809.3m (£622m) with a total project value of \$2.9b (£2.2b),¹⁸³¹ while Nigeria has total financing of about \$645.3m (£496.3m)with a total project value of \$2.6b (£2b).¹⁸³² This means Nigeria's performance to access climate change funding is low.¹⁸³³ This low performance was partly

[public/22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTIONS.pdf](#) > Accessed 21st March 2020.

¹⁸²⁶ World Resources Institute, 3 Ways to Help Developing Countries Get Direct Access to Climate Finance available at < <https://www.wri.org/blog/2015/12/3-ways-help-developing-countries-get-direct-access-climate-finance> > Accessed 21st March 2020; M Fonta and T van Huysen, 'Africa and the Green Climate Fund: current challenges and future opportunities (2018) 18 (9) Climate policy 1210-1225 at 1215.

¹⁸²⁷ For instance, the National Environment Management Authority (NEMA) is for Kenya, and the South African National Biodiversity Institute (SANBI) is for South Africa. These institutions have direct access. see World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 7 <https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTIONS.pdf> > Accessed 21st March 2020.

¹⁸²⁸ J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) at 90 available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Climate.pdf> > Accessed 9th December 2019.

¹⁸²⁹ Ibid 90.

¹⁸³⁰ Green Climate Fund available at < <https://www.greenclimate.fund/countries/morocco> > Accessed 8th April 2020.

¹⁸³¹ Green Climate Fund available at < <https://www.greenclimate.fund/countries/kenya> > Accessed 8th April 2020.

¹⁸³² Green Climate Fund available at < <https://www.greenclimate.fund/countries/nigeria> > Accessed 8th April 2020.

¹⁸³³ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 144 ; Department of Climate Change, Federal Ministry of Environment 'Coordination and Climate Finance in Nigeria' available at <https://climatechange.gov.ng/coordination-and-climate-finance-in-nigeria/> > Accessed 8th February 2020.

attributed to Nigeria's not submitting projects and programmes for funding regarding NAMA.¹⁸³⁴ Aside from NAMA submission for projects, the DCC acknowledges that Nigeria's poor access to climate change funding is a lack of understanding of various climate change funding opportunities and difficulties in meeting the requirements of climate change providers.¹⁸³⁵

7.2.3.4 .1 CLIMATE CHANGE FUNDING AND THE ROLE OF STRONG NATIONAL INSTITUTION

In practice, receiving financial support from developed countries to finance climate change projects and programmes can be problematic.¹⁸³⁶ This is because there are many conditions developing countries must meet to access climate change funds. A few of the conditions are the ability of climate change MDAs to show a record of delivering mitigation and adaptation projects, having in place a functional audit committee, procurement committee, information of complaints handled for the past two years, ability to comply with Green Climate Fund fiduciary and gender policy etc.¹⁸³⁷ The World Resources Institute investigation of some developing countries such as Uruguay, Costa Rica, South Africa ... identified three ways to get accredited and have direct access to climate change funds.¹⁸³⁸ According to the World Resources Institute,

¹⁸³⁴J Adegoke and A Araba, Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework (Federal Ministry of Agriculture and Rural Development 2015) at 90 available at < <https://boris.unibe.ch/62564/1/Nigerias%20Changing%20Climate.pdf> > Accessed 9th December 2019

¹⁸³⁵Department of Climate Change, Federal Ministry of Environment, <https://climatechange.gov.ng/coordination-and-climate-finance-in-nigeria/> > Accessed 8th February 2020.

¹⁸³⁶ OECD, Toolkit To Enhance Access To Adaptation Finance For developing countries that are vulnerable to adverse effects of climate change, including LDCs, SIDS and African states (2015) page 15 available at <<http://www.oecd.org/environment/cc/Toolkit%20to%20Enhance%20Access%20to%20Adaptation%20Finance.pdf>> accessed 12 April 2020 ; T Tanner and S Biswas, Enabling access to the Green Climate Fund: Sharing country lessons from South Asia (2019 Action on Climate Change) at page 12 available at < http://www.acclimatise.uk.com/wp-content/uploads/2019/04/ACT-Green-Climate-Fund_Final.pdf > Accessed 12 April 2020.

¹⁸³⁷Joe Lo, 'Why can't poor countries access the climate finance they were promised?' < <https://www.theguardian.com/global-development-professionals-network/2016/feb/15/small-island-states-green-climate-fund> > Accessed 3rd 2020 .

Joe Lo, 'Why can't poor countries access the climate finance they were promised?' < <https://www.theguardian.com/global-development-professionals-network/2016/feb/15/small-island-states-green-climate-fund> > Accessed 3rd 2020.

World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) <https://wriorg.s3.amazonaws.com/s3fs->

accredited developing countries have solid national plans, strong institutions, and the ability to show engagement with stakeholders of the funds received and ensure coordination among MDAs.¹⁸³⁹ This is further explained below.

7.2.3.4 .2 STRONG NATIONAL PLAN

The World Resources Institute investigation shows that countries that have direct access ‘already have in place strong national plans for combatting climate change.’¹⁸⁴⁰ National plans are written national strategies to combat climate change at the national level. An interview conducted by the World Resources Institute unveiled that Uruguay’s National Plan for Climate Change of 2009 prioritised the high risk of agriculture and livestock, among other sectors. This is also with Costa Rica, where the National Climate Change Strategy identifies water and coastal zones as priority areas for adaptation intervention.¹⁸⁴¹ Prioritising key areas of need to tackle climate change in National strategy is important because national climate change plans help the process of getting accreditation. Countries that are accredited use national policies to decide what to seek financial aid for.¹⁸⁴² They ensure that proposals for funds or projects fit into key priority areas of national plans.¹⁸⁴³ The findings of the World Resources Institute unveil that prioritising key areas of national needs of national policies and matching it with

[public/22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTIONS.pdf](#) > Accessed 21st March 2020.

¹⁸³⁹ World Resources Institute, 3 Ways to Help Developing Countries Get Direct Access to Climate Finance available at < <https://www.wri.org/blog/2015/12/3-ways-help-developing-countries-get-direct-access-climate-finance> > Accessed 21st March 2020.

¹⁸⁴⁰ World Resources Institute, 3 Ways to Help Developing Countries Get Direct Access to Climate Finance available at < <https://www.wri.org/blog/2015/12/3-ways-help-developing-countries-get-direct-access-climate-finance> > Accessed 21st March 2020.

¹⁸⁴¹ World Resources Institute, ‘Direct Access To Climate Finance: Lessons Learned By National Institutions’ (2015 Working Paper) at page 7-9 <https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTIONS.pdf> > Accessed 21st March 2020

¹⁸⁴² Ibid 8.

¹⁸⁴³ Ibid 8.

proposals for funds help Uruguay, Costa Rica, and other developing countries to have direct access to climate financing.¹⁸⁴⁴

Chapter four of this thesis has shown that the Nigerian government has several plans and climate change policies,¹⁸⁴⁵ such as the National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN), Nigeria Vision 20:2020, and the National Policy on Climate Change (NPCC). Among these plans, NASPA-CCN has yet to be adopted, Nigeria Vision 20:2020 has expired. The most encompassing policy is the NPCC which targets more than 14 sectors. The NPCC does not prioritise key sectors the Nigerian government needs to be focused on. As already argued in chapter 3, the NPCC needs to be amended so as to align with Nigeria's Nationally Determined Contribution. This will make the NPCC focus on the key areas the Nigerian government pledged under the Paris Agreement.

7.2.3.4 .3 SELECTING STRONG IMPLEMENTING ENTITIES

Aside from national strategy, 'the climate funds require countries to show they have institutions to deploy money and effectively oversee the implementation of financed initiatives.'¹⁸⁴⁶ This means the National Designated Authority plays a significant role in the process of accreditation. The investigation of the World Resources Institute highlighted that all developing countries that are accredited attested that having a good National Designated Authority that understands accreditation requirements helped the accreditation process.¹⁸⁴⁷

¹⁸⁴⁴ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 7-9 https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf > Accessed 21st March 2020.

¹⁸⁴⁵See chapter four at 4.7 the role of the executive and climate change integration.

¹⁸⁴⁶ World Resources Institute, 3 Ways to Help Developing Countries Get Direct Access to Climate Finance available at < <https://www.wri.org/blog/2015/12/3-ways-help-developing-countries-get-direct-access-climate-finance> > Accessed 21st March 2020 .

¹⁸⁴⁷World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 10-11 <https://wriorg.s3.amazonaws.com/s3fs->

This is because National Designated Authority ensures the selection of national implementation entities¹⁸⁴⁸ to meet accreditation requirements and communicate the needs of the national government with accreditation institutions.¹⁸⁴⁹ In addition, the nomination of an implementation entity must have a track record of overseeing fund deployment for projects because the implementation entities have a responsibility to the funds and ensure that the use of funds is transparent.

7.2.3.4 .5 ENGAGEMENT WITH STAKEHOLDERS

One of the criteria for having direct access to climate change funds is the ability of the recipient to show proper engagement with stakeholders.¹⁸⁵⁰ Stakeholders refer to various actors, including but not limited to government agents, private investors, local community members, and many more.¹⁸⁵¹ Developing countries that have direct access to climate change funds affirmed that stakeholders are identified and engaged.¹⁸⁵² For instance, in South Africa and Rwanda, the national implementing entities host stakeholders' meetings that involve civil society, private investors, government ministries, and churches about the national

[public/22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTIONS.pdf](#) > Accessed 21st March 2020.

¹⁸⁴⁸ National Implementing Entities (NIE) are accredited entities that saddled with the duty to mobilise and manage GCF in a country OR NIE are the accredited institutions with at the national level or regional to receive fund directly from intermediaries for climate change projects. See Adaptation Fund, Implementing Entities available at < [Implementing Entities \(adaptation-fund.org\)](#) > accessed 3rd April 2021.

¹⁸⁴⁹World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 10-11 <https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTIONS.pdf> > Accessed 21st March 2020.

¹⁸⁵⁰ World Resources Institute, 3 Ways to Help Developing Countries Get Direct Access to Climate Finance available at < <https://www.wri.org/blog/2015/12/3-ways-help-developing-countries-get-direct-access-climate-finance> > Accessed 21st March 2020.

¹⁸⁵¹ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 18 < [22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTION S.pdf \(wriorg.s3.amazonaws.com\)](#) > accessed 23rd February 2020.

¹⁸⁵² World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 18 < [22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTION S.pdf \(wriorg.s3.amazonaws.com\)](#) > accessed 23rd February 2020 .

implementation plans and projects. This process helps stakeholders to understand what the national government is doing about climate change. It also helps the national implementing entities identify stakeholders' priorities and put projects that promote local ownership.¹⁸⁵³

Stakeholder engagement also includes an effective collaboration among key climate change institutions. Most accredited institutions emphasised mutual collaboration among Nationally Designated Authority, implementation entities, and other relevant actors. The World Resources Institute findings reveal that effective coordination among MDAs avoids resource competition and maximizes synergies among MDAs.¹⁸⁵⁴ This point is further analysed in section 7.3.2.¹⁸⁵⁵

The NPCC notes stakeholders' engagement in projects and programme planning. The NPCC states that formulation and implementation of climate change in Nigeria will involve multi-stakeholder engagement.¹⁸⁵⁶ However, it is not clear whether the DCC is carrying out this engagement arrangement as there is no available data regarding what the Nigerian government is doing to engage with stakeholders. Even the National Climate Change Round Table,¹⁸⁵⁷ the idea of which is to allow businesses or companies to showcase their low carbon programmes, the integration plans of low carbon and sustainable development¹⁸⁵⁸ does not say what it has done to engage the private sector relating to climate change. This is so because the effectiveness of the National Climate Change Round Table committee is unknown since there is no information regarding its activities. Fonta and Huysen's investigation of developing countries'

¹⁸⁵³ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 18 < [22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTION S.pdf \(wriorg.s3.amazonaws.com\)](https://www.wri.org/s3.amazonaws.com/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTION_S.pdf) > accessed 23rd February 2020.

¹⁸⁵⁴ World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 12 < [22DIRECT ACCESS TO CLIMATE FINANCE LESSONS LEARNED BY NATIONAL INSTITUTION S.pdf \(wriorg.s3.amazonaws.com\)](https://www.wri.org/s3.amazonaws.com/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTION_S.pdf) > accessed 23rd February 2020.

¹⁸⁵⁵ 7.3.2 Collaboration of the MDAs.

¹⁸⁵⁶ Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013 at 34.

¹⁸⁵⁷ The Ministry of Environment of the Federal Republic of Nigeria (2003) Nigeria's First National Communication Under the United Nations Framework Convention on Climate change (UNFCCC) 97.

¹⁸⁵⁸ P Koblowsky and C Ifejika, 'Institutional challenges to developing a Nigerian climate policy' 2010 11-15.

access to climate change funding unveils that private sector engagement in enhancing access to climate change in Africa is poor.¹⁸⁵⁹ They attributed the poor engagement to a lack of awareness by the private sector.¹⁸⁶⁰ However, the Nigerian government's recent readiness and preparatory support proposal template for Green Climate Fund shows how stakeholders will be engaged in the Green Climate Fund.¹⁸⁶¹ There is no guarantee if the stakeholder engagement proposal will be carried out in the future as there is no evidence that the DCC is properly engaging stakeholders in climate change matters.

7.2.4 KEY FINDINGS

The setting up of the GHG Inventory unit in the DCC is in line with the Marrakesh capacity indicator, which emphasises the management of GHG inventories.¹⁸⁶² This is also in line with Article 4 (1) (a) and 12 UNFCCC, Article 13 (7) (a) Paris Agreement which obligation is to the effect that Parties should develop ‘a national inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases...’¹⁸⁶³ However, having reviewed the key roles and functions of the DCC, especially its reporting obligation, the DCC lacks the capacity to fulfil Article 4 (1) (a) and 12 UNFCCC, Article 13 (7) (a) Paris Agreement, which encourages non annex I Party to report climate change activities at the national level.

¹⁸⁵⁹M Fonta and T van Huysen, ‘Africa and the Green Climate Fund: current challenges and future opportunities (2018) 18(9) Climate policy 1210-1225 at 1215.

¹⁸⁶⁰ M Fonta and T van Huysen, ‘Africa and the Green Climate Fund: current challenges and future opportunities (2018) 18(9) Climate policy 1210-1225 at 1215.

¹⁸⁶¹ Readiness Proposal with the United Nations Environment Programme (UNEP) for Federal Republic of Nigeria 2019 | Adaptation Planning at 15 < <https://www.greenclimate.fund/sites/default/files/document/readiness-proposals-nigeria-unep-adaptation-planning.pdf> > Accessed 20th April 2020.

¹⁸⁶²United Nations Climate Change, building capacity in the UNFCCC process < <https://unfccc.int/topics/capacity-building/the-big-picture/capacity-in-the-unfccc-process> > accessed 14 April 2020 .

¹⁸⁶³Article 4(1) a UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

Again, the DCC has a climate change education and awareness unit responsible for educating Nigerian about the impacts of climate and participation of citizens in the climate change regime. The setting up of the unit is in line with Article 6 of the UNFCCC.¹⁸⁶⁴ Nevertheless, the efforts of the DCC to sensitise Nigerians about climate change issue is very low. As evidence shows that there is only one known court case relating to climate change litigation.¹⁸⁶⁵ Even the majority of students in tertiary institutions are unaware of the impacts of climate change.¹⁸⁶⁶ In this sense, the DCC and other related agencies have not fully complied with Article 6 of the UNFCCC.

The assessment of climate change funds underscores that the Nigerian government has not performed very well. Though, recently, the Nigerian government has submitted its Technology Assessment and needs on 22 November 2019.¹⁸⁶⁷ Also, a Readiness Preparatory Support Proposal for Green Climate Fund was submitted on 22 November 2019.¹⁸⁶⁸ These documents show the efforts of the Nigerian government to comply with the reporting obligation and to meet the requirements for accessing climate change funds. However, Nigeria is not among the countries that have submitted an Adaptation Strategy, neither are they accredited for the Adaptation Fund as of October 2019.¹⁸⁶⁹ Again, the Biennial Report pointed out that as of 2018, ‘Nigeria is yet to conduct an in-depth technology assessment and needs to address

¹⁸⁶⁴ Article 10 (e) Kyoto Protocol, Article 12 of Paris Agreement as well as SDG target 13:3.

¹⁸⁶⁵ Jonah Gbemre V Shell Petroleum Development Company & others; Federal High Court of Nigeria Benin Judicial Division Suit No: fhc/b/cs/53/05 (Judgment of 14 November 2005).

¹⁸⁶⁶ O Nwagbara and U C Okugo, ‘The Role of Radio in Creating Awareness of Climate Change Among Crop Farmers in Abia State (2018) 14 (1) *Nduñode* at 234-249.

¹⁸⁶⁷ Readiness Proposal with the Climate Technology Centre and Network (CTCN) through UNIDO for Federal Republic of Nigeria 2019 | Strategic Frameworks <<https://www.greenclimate.fund/sites/default/files/document/readiness-proposals-nigeria-unido-ctcn-strategic-frameworks.pdf>> Accessed 20th April 2020.

¹⁸⁶⁸ Readiness Proposal with the United Nations Environment Programme (UNEP) for Federal Republic of Nigeria 2019 | Adaptation Planning < <https://www.greenclimate.fund/sites/default/files/document/readiness-proposals-nigeria-unep-adaptation-planning.pdf> > Accessed 20th April 2020.

¹⁸⁶⁹ Adaptation Fund, Accredited Implementing Entities as at March 2020 available at < <https://www.adaptation-fund.org/wp-content/uploads/2020/03/Accreditation-status-of-the-Implementing-Entities-March-2020.pdf> > Accessed 4th April 2020 .

climate change.¹⁸⁷⁰ Under Article 4 (1) (5) of UNFCCC, Article 10 of Kyoto Protocol, and Article 10 (5) of the Paris Agreement, National governments, through climate change MDAs, have a role in assessing technology needs. The Technology Transfer Framework, set up in 2001, covers five key themes that developing countries should undertake and identify climate change technology priorities.¹⁸⁷¹ Under the climate change regime, countries are to undertake technology needs assessments, technology information, and others.¹⁸⁷² The importance of the technology needs assessment is that it enhances the capacity of national institutions.¹⁸⁷³ The technology needs assessment contributes to acquiring sustainable technology.¹⁸⁷⁴ It also encourages investments in key sectors of the economy and attracts international technology support programmes or initiatives.¹⁸⁷⁵ It was stated that ‘[s]ince 1999, more than 85 developing countries have assessed their technology needs to address climate change’¹⁸⁷⁶ In the case of Nigeria, there is no known technology needs assessment except the recent 2019 technology needs assessment discussed above.¹⁸⁷⁷ The assessment of the mitigation options, including

¹⁸⁷⁰Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 147; Though, Nigerian government has submitted Technology Assessment and needs on 22 November 2019.

¹⁸⁷¹Technology Executive Committee Strengthening climate technology policies < <https://unfccc.int/ttclear/tec/tech-transfer-framework.html> > Accessed 5th April 2020

¹⁸⁷² United Nations Framework Climate Change Conference, Technology and the UNFCCC Building the foundation for sustainable development (2016 UNFCCC) at 4 < https://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/NAD_EBG/54b3b39e25b84f96aeada52180215ade/b8ce50e79b574690886602169f4f479b.pdf > Accessed 2nd April 2020.

¹⁸⁷³ G Karlsson, Handbook for Conducting Technology Needs Assessment for Climate Change (UNFCCC 2009) at 5

¹⁸⁷⁴ G Karlsson, Handbook for Conducting Technology Needs Assessment for Climate Change (UNFCCC 2009) at 5.

¹⁸⁷⁵ G Karlsson, Handbook for Conducting Technology Needs Assessment for Climate Change (UNFCCC 2009) at 5

¹⁸⁷⁶ United Nations Framework Climate Change Conference, Technology and the UNFCCC Building the foundation for sustainable development (2016 UNFCCC) at 4 < https://unfccc.int/ttclear/misc/_StaticFiles/gnwoerk_static/NAD_EBG/54b3b39e25b84f96aeada52180215ade/b8ce50e79b574690886602169f4f479b.pdf > Accessed 2nd April 2020.

¹⁸⁷⁷ Readiness Proposal with the Climate Technology Centre and Network (CTCN) through UNIDO for Federal Republic of Nigeria 2019 Strategic Frameworks <<https://www.greenclimate.fund/sites/default/files/document/readiness-proposals-nigeria-unido-ctcn-strategic-frameworks.pdf> > Accessed 20th April 2020.

technology needs, is one of the responsibilities of the DCC.¹⁸⁷⁸ Failure of the DCC to carry out a technology assessment except for 2019 questions the capacity of DCC.

7.3 MDAs INDIRECTLY DEALING WITH CLIMATE CHANGE, AND COMMITTEE ON CLIMATE CHANGE

The following MDAs have a critical role to play to actualise the NICCOs. For instance, the Federal Ministry of Power, the Rural Electrification Agency, the Inter-ministerial committee on climate change, including the office of Senior Special Assistant to the President on SDGs, have a role to play in the implementation of SDG 7, 15, Nigeria NDC and climate change obligations at the national level. The purpose of this segment is first to briefly explain the key role of these MDAs and second, assess the collaborative role of the MDAs to implement climate change obligations, SDG, and the Nigeria NDC linkages. Therefore, section 7.3.1 explains the roles of the MDAs indirectly dealing with climate change in Nigeria,¹⁸⁷⁹ while sections 7.3.2 -7.3.5 assess the level of collaboration among these MDAs.

7.3.1 ROLE OF MINISTRIES, DEPARTMENTS AND AGENCIES

(i) **The Federal Ministry of Power (FMP):** The FMP is the policy making arm of the Federal government of Nigeria.¹⁸⁸⁰ Its responsibility is to formulate and implement policies and

¹⁸⁷⁸ Department of Climate Change, Federal Ministry of Environment, <https://climatechange.gov.ng/what-we-do/> > Accessed 8th February 2020 .

¹⁸⁷⁹ The Federal Ministry of Environment and Department of Climate Change while the Ministry of Power, the Rural Electrification Agency, the office of senior special assistant to the President.

¹⁸⁸⁰ Federal Ministry of Environment, available at < <http://www.power.gov.ng/function-of-the-ministry/> > accessed 2nd March 2020.

programmes 'on the general development of the power sector (electricity).¹⁸⁸¹ The FMP has a key role in the actualisation of SDG 7 and the Nigeria NDC energy related targets. The programme initiated by the FMP and how it will support the Nigerian government in renewable energy penetration was discussed in chapter 4

(ii) *The Rural Electrification Agency*: The Rural Electrification Agency formation is traced to the 2005 electricity reform that privatised Nigeria's power sector.¹⁸⁸² The key role of the Rural Electrification Agency is 'to support standalone and off-grid renewable energy systems 'at the rural communities.¹⁸⁸³The projects and programmes initiated by the Rural Electrification Agency and its relevance to the fulfilment of the Nigerian climate change obligation are discussed in chapter 4

(iii) *The Office of Senior Special Assistant to The President on SDGs*: This office is set up by the president of Nigeria.¹⁸⁸⁴ One of the key mandates of the office is to oversee the implementation and integration of the SDGs into Nigeria's development plans at federal, state, and local levels.¹⁸⁸⁵ The Nigeria National Voluntary Review claimed that SDG focal persons had been appointed at the state level; the mandate is to implement SDG targets in line with the directive of the Senior Special Assistant on the SDGs.¹⁸⁸⁶ Even at the parliament, the National Assembly sets up committees on SDGs. The duty is to provide a supervisory role of SDG

¹⁸⁸¹Federal Ministry of Environment, available at < <http://www.power.gov.ng/function-of-the-ministry/> > accessed 2nd March 2020.

¹⁸⁸²See Part IX of the Act.

¹⁸⁸³Rural Electrification Agency available at <https://rea.gov.ng/theagency/> > accessed 2nd March 2020.

; Ley, K., Gaines, J. and Ghatikar, A., 2015. The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) at 123.

¹⁸⁸⁴B Muhammad, 'Implementation of the SDGs A National Voluntary Review (2017) at 1 available, <<https://sustainabledevelopment.un.org/content/documents/16029Nigeria.pdf> > Accessed 11th April 2020

¹⁸⁸⁵Sustainable development Goals, Office of senior special assistant to the president, see the mandate available at < <http://sdgs.gov.ng/about-sdgs/our-mandate/> > Accessed 11th April 2020.

¹⁸⁸⁶B Muhammad, 'Implementation of the SDGs A National Voluntary Review (2017) at 54 available, <https://sustainabledevelopment.un.org/content/documents/16029Nigeria.pdf> > Accessed 11th April 2020.

implementation.¹⁸⁸⁷ Aside from this, the SDG office has partnered with other agencies to create awareness and participation in the SDGs programme across Nigeria.¹⁸⁸⁸ The point is that the SDG office has a role in implementing SDG 15 and the Nigeria NDC forest-related targets relevant to this research.

(iv) *The Inter-ministerial committee on climate change*: is a coordinating body set up in 1993 by the executive arm of the Federal government of Nigeria.¹⁸⁸⁹ It comprises several ministries.¹⁸⁹⁰ One of the major functions of the Inter-ministerial committee on climate change is to advise the Federal government on issues and policies relating to climate change.¹⁸⁹¹ The Inter-ministerial committee on climate change meets quarterly and on an ad-hoc basis to review climate change policies and advise the Federal government on appropriate measures.¹⁸⁹² The Inter-ministerial committee on climate change contributed to the Nigeria Renewable Energy and Efficiency Policy¹⁸⁹³ and reviewed the National Energy Policy.¹⁸⁹⁴ In addition, the Inter-ministerial committee has determined the eligibility of projects that fit into the Nigerian Green Bond Fund.¹⁸⁹⁵ This committee is better positioned to collaborate with other climate change

¹⁸⁸⁷B Muhammad, 'Implementation of the SDGs A National Voluntary Review (2017) at 55 available, <https://sustainabledevelopment.un.org/content/documents/16029Nigeria.pdf> > Accessed 11th April 2020.

¹⁸⁸⁸ B Muhammad, 'Implementation of the SDGs A National Voluntary Review (2017) at 58 available, <https://sustainabledevelopment.un.org/content/documents/16029Nigeria.pdf> > Accessed 11th April 2020.

¹⁸⁸⁹P Koblowsky and C Ifejika, 'Institutional challenges to developing a Nigerian climate policy boris.unibe.ch' 11-15.

¹⁸⁹⁰Federal Ministry of Agriculture ii. Federal Ministry of Water Resources iii. Federal Ministry of Finance iv. Federal Ministry of Industry v. Federal Ministry of Justices vi. Ministry of Petroleum Resources vii. Ministry of Foreign Affairs viii. Nigerian Meteorological Agency ix. National Planning Commission X. Energy Commission of Nigeria xi. National Electric Power Authority; see The Ministry of Environment of the Federal Republic of Nigeria (2003) Nigeria's First National Communication Under the United Nations Framework Convention on Climate change (UNFCCC) 97.

¹⁸⁹¹ Ibid

¹⁸⁹² Department of Climate Change <http://climatechange.gov.ng/what-we-do/> > accessed 15 March 2019

¹⁸⁹³ National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria < <http://admin.theguides.org/Media/Documents/NREEE%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019 see forwards.

¹⁸⁹⁴Federal Republic Of Nigeria National Energy Policy (Energy Commission Of Nigeria 2003) < see forward http://rea.gov.ng/wp-content/uploads/2017/09/National_Energy_Policy_Nigeria.pdf > accessed 7th September 2019.

¹⁸⁹⁵ Federal Government of Nigeria, Pursuant to the Local Loans (Registered Stock and Securities) Act, CAP. L17, LFN 2004, (2019) 18.

MDAs including the SDG implementation agencies, since its members cut across several government ministries and departments.

7.3.2 COLLABORATION OF THE MDAs

Achieving climate change obligations require several MDAs and committees to collaborate and implement the climate change policies as the impacts intersect across every sector.¹⁸⁹⁶ Collaboration among MDAs at the national level is vital to realising the NICCOs, especially top MDAs responsible for SDG and climate change obligations. The Organisation for Economic Co-operation and Development (OECD) encourages strong coordination among lead MDAs to implement climate change and SDGs. The OECD suggests that ‘enhancing policy and institutional coherence by identifying policy interactions, trade-offs, and synergies across economic, social and environmental areas’ is key to realising the 2030 agenda.¹⁸⁹⁷ The developing country Parties also note collaboration among MDAs at the fourth comprehensive review of implementing the framework for capacity-building in developing countries.¹⁸⁹⁸ They said collaboration amongst constituted bodies in the fight against climate change should be pursued at the national level.¹⁸⁹⁹ Many academics agree on this.¹⁹⁰⁰

¹⁸⁹⁶Federal Ministry of Environment, Department of Climate Change, National Policy on Climate Change 2013 at 34.

¹⁸⁹⁷ OECD, Better Policies for 2030 An OECD Action Plan on the Sustainable Development Goals at page 3

¹⁸⁹⁸United Nations Framework Convention on Climate Change, Views on the fourth comprehensive review of the implementation of the framework for capacity-building in developing countries under the Convention FCCC/SBI/2019/INF.17 at paragraph 17 available at <https://unfccc.int/sites/default/files/resource/sbi2019_inf17.pdf >Accessed 11th April 2020.

¹⁸⁹⁹ Ibid.

¹⁹⁰⁰M Bouyé, M and N S Schulz, Connecting the dots: Elements for a joined-up implementation of the 2030 Agenda and Paris Agreement. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2018) 16; N Favretto and C H Quinn, ‘Links between climate change mitigation, adaptation and development in land policy and ecosystem restoration projects: Lessons from South Africa (2018) 10 (3) Sustainability, 779 at 779; L Nhamo, L., Ndlela, B., Nhemachena, C., Mabhaudhi, T., Mpandeli, S. and G Matchaya, ‘The water-energy-food nexus: Climate risks and opportunities in southern Africa. (2018) 10 (5) Water 567; M Scobie, ‘Policy coherence in climate governance in Caribbean small island developing states (2016) 58 Environmental Science & Policy,16-28.

7.3.3 COLLABORATION BETWEEN DCC AND OTHER MDAs

At the national level, the DCC recognised the need to work with existing MDAs especially creating awareness to support renewable energy development and forest enhancement programmes. The DCC has a unit known as the Sustainable Energy Unit.¹⁹⁰¹ This unit is to create awareness and programme that will support renewable energy.¹⁹⁰² It clearly states that the unit will collaborate with the Energy Commission, Federal Ministry of Power, Rural Electrification¹⁹⁰³ on initiatives that will engender clean energy across the country.¹⁹⁰⁴ Also, the REDD+ unit of the DCC is meant to collaborate with the national REDD+ Programme.¹⁹⁰⁵ However, at the time of writing this thesis, there is no information available as to the level of collaboration between the DCC and other climate change MDAs to develop renewables or enhance forest areas in Nigeria.

7.3.4 COLLABORATION AMONGST OTHER MDAs

There are examples of collaboration among government agencies that are not directly involved in managing climate change. For example, the Ministry of Power is working with the Ministry of Water Resources on small hydro power projects in Nigeria.¹⁹⁰⁶ The Ministry of Water Resources carried out studies of about 19 dam projects capable of generating 3,557 MW.¹⁹⁰⁷

¹⁹⁰¹Department of Climate Change, Federal Ministry of Environment < <https://climatechange.gov.ng/division/mitigation/> > Accessed 8th February 2020.

¹⁹⁰²Ibid.

¹⁹⁰³Ibid.

¹⁹⁰⁴Ibid.

¹⁹⁰⁵Ibid.

¹⁹⁰⁶ K Ley and A Ghatikar, The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification (Deutsche Gesellschaft für Internationale Zusammenarbeit 2015) at 91.

¹⁹⁰⁷K Ley and A Ghatikar, The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification (Deutsche Gesellschaft für Internationale Zusammenarbeit 2015) at 91.

Also, the Federal Ministry of Environment claimed that it has collaborated with Green Carbon Afrique, a private company, to develop a sugarcane-based biofuel plant covering about 2,000 hectares of land in two local government areas of Nigeria.¹⁹⁰⁸ The Nigeria Federal Ministry of Environment also works with the United Nations Development Programme to provide LPG to four schools.¹⁹⁰⁹

It is important to note that collaboration among MDAs could lead to an overlap of functions. Especially where an environmental ministry such as the Federal Ministry of Environment engages in renewable energy development. This occurred in Nigeria when the Federal Ministry of Environment installed a rural electrification project, specifically, a 'stand-alone solar system for 600 households'¹⁹¹⁰ instead of the Rural Electrification Agency, which is mandated to carry out standalone off-grid renewable energy projects in the country.

However, the concern of this segment is not the overlap of function but the collaboration among the MDAs to plan together how to execute projects that will help renewable energy penetration in Nigeria. For example, from the above, the Federal Ministry of Environment partnered with the United Nations Development Programme to provide LPG for schools. However, there is no evidence of wide collaboration among the various MDAs to plan together, channel resources to drive renewable energy development, or forest enhancement by the MDAs in Nigeria.

7.3.5 COLLABORATION BETWEEN MDAs AND THE SDG OFFICE

There is no known collaboration between the office of the SDG and other climate change implementation MDAs. Neither the voluntary National Review of the SDGs refers to any

¹⁹⁰⁸Ibid 90.

¹⁹⁰⁹Federal Ministry of Environment available at < <https://environment.gov.ng/clean-energy-initiatives/> > Accessed 20 March 2020.

¹⁹¹⁰Ibid.

collaboration between climate change MDAs and the SDG office, nor does the functions highlighted by the DCC refers to the collaboration with the SDG implementation agency.

However, recent development in other countries encourages collaboration among key relevant climate change MDAs and SDG implementation agencies.¹⁹¹¹ This is to enable implement key SDG, climate change, and NDC linkages. For example, in 2017, three MDAs in Mexico collaborated to implement SDG and NDC targets.¹⁹¹² The office of the President of Mexico, which is responsible for the SDG implementation, the Ministry of Environment and Natural Resources, and the National Institute of Ecology and Climate Change which are responsible for the NDC support close coordination of SDG and NDC implementation.¹⁹¹³ Also, in Japan, there is a well-coordinated institutional arrangement of SDG and NDC implementation. Relevant institutions for the implementation of SDG and NDC are led by the Global Warming Prevention Headquarters, chaired by the prime minister, including relevant cabinet ministers.¹⁹¹⁴ In Colombia, an Inter-Agency Commission is established to implement the Post-2015 Development Agenda.¹⁹¹⁵ In Vietnam, a National Council for Sustainable Development and Competitiveness Enhancement and a working group of the Council were established. These two organisations are to address key achievable SDGs that are linked to climate change. In order to achieve this aim, the two organs report to the government, and the government sends

¹⁹¹¹ M Bouyé, and N S Schulz, Connecting the dots: Elements for a joined-up implementation of the 2030 Agenda and Paris Agreement. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2018) 16; ‘Sustainable Development Goal Knowledge Platform’ Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development: Maximizing Co-Benefits by Linking Implementation across SDGs and Climate Action. (United Nations 2019) at 50 ><https://sustainabledevelopment.un.org/climate-sdgs-synergies2019> > accessed 29th August 2019.

¹⁹¹² M Bouyé, and N S Schulz, Connecting the dots: Elements for a joined-up implementation of the 2030 Agenda and Paris Agreement. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2018) 16.

¹⁹¹³ M Bouyé, and N S Schulz, Connecting the dots: Elements for a joined-up implementation of the 2030 Agenda and Paris Agreement. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2018) 16.

¹⁹¹⁴ ‘Sustainable Development Goal Knowledge Platform’ Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development: Maximizing Co-Benefits by Linking Implementation across SDGs and Climate Action. (United Nations 2019) at 50 ><https://sustainabledevelopment.un.org/climate-sdgs-synergies2019> > accessed 29th August 2019.

¹⁹¹⁵ OECD, Opening of the Inter-ministerial Commission on OECD Affairs, Opening remarks by Angel Gurría OECD Secretary-General October 2019 - Bogota, Colombia.

the report to the parliament to address key SDG and climate change interlinkages. This process is continuously monitored, reviewed, and reported.¹⁹¹⁶

However, in Nigeria, this collaboration among MDAs and SDG implementation agencies is non-existent. This research argues that there is a strong need for lead MDAs and SDG implementing agencies to collaborate for the following reasons. The first reason is that the achievement of key climate change obligations and pledges will also lead to the achievement of relevant SDGs. Second, the Nigeria NDC key pledges such as improve electricity grid, reforestation, energy efficiency show the priority of the Nigerian government plans to invest money on projects. The mapping of NDC and climate change synergies and the key SDGs (discussed in chapter three¹⁹¹⁷) would encourage relevant MDAs to pool resources to achieve top targets of climate change obligations at the domestic level.¹⁹¹⁸ The third reason is that availability of climate change funds to carry out climate change activities is one of the major problems.¹⁹¹⁹ For instance, the 2019 budget sets out N1.72 billion (£3,400,000) for Land and Climate Management and N40 billion (£80m) for SDGs Intervention Programmes/Conditional Grants.¹⁹²⁰ The whole SDG proposed programmes and land and climate management is less than the United Kingdom five years plan for charging infrastructure of electric vehicles.¹⁹²¹ About £500m is budget for charging infrastructure of an electric vehicle, this excludes carbon

¹⁹¹⁶ ‘Sustainable Development Goal Knowledge Platform’ Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development: Maximizing Co-Benefits by Linking Implementation across SDGs and Climate Action. (United Nations 2019) at 65 ><https://sustainabledevelopment.un.org/climate-sdgs-synergies2019> > accessed 29th August 2019.

¹⁹¹⁷ See chapter at Table 1.1 climate change obligation, key SDG, and Nigeria NDC synergies.

¹⁹¹⁸ See chapter two.

¹⁹¹⁹ T W Abraham and W M Fonta, ‘Climate change and financing adaptation by farmers in northern Nigeria (2018) 4 (1) Financial Innovation, 1.

¹⁹²⁰ Ministry of budget and national planning, Breakdown Of 2019 FGN Budget Proposal at page 40 and 43 available at < <http://www.nationalplanning.gov.ng/2017/images/pub/HMBNP-2019-EBP-Public.pdf> > Accessed 11th April 2020.

¹⁹²¹ Carbon Brief clear on climate, ‘Budget 2020: Key climate and energy announcements’ available on < <https://www.carbonbrief.org/budget-2020-key-climate-and-energy-announcements> > Accessed 11th April 2020.

capture and storage facility,¹⁹²² woodland expansion etc¹⁹²³ This clearly shows that funds available to Nigeria are limited, and there is a need to pool resources on top priority areas.

7.3.4 KEY FINDINGS

First, the Nigerian climate change MDAs especially, the DCC, merely recognise the need to collaborate with other relevant climate change MDAs to improve renewable energy development. There is no concrete evidence of collaboration between the DCC and other MDAs by pooling resources or planning to actualise the NCCIOs. In addition, the DCC, the leading climate change agency in Nigeria, did not recognise the need to collaborate with the SDG office responsible for implementing the SDGs targets in Nigeria even though the SDG, NDC, and climate change obligations are interlinked.

Second, the Federal Ministry of Environment tried to liaise with Green Carbon Afrique to build a biofuel plant. Third, the Federal Ministry of Power team up with the Ministry of Water Resources to identify dams for hydro power generation. However, the collaboration between the Federal Ministry of Power with Ministry of Water Resources is the personal effort of these two ministries. This is unlike other jurisdictions like Mexico, where the president's office pushes for collaboration among relevant MDAs to implement SDG and NDC implementation.¹⁹²⁴ In sum, the Nigerian government has not deemed it fit to bring all the relevant MDAs, renewable development, forest development, and the SDG implementation agencies together to collaborate on planning, strategizing, and mapping out clear linkages such as SDGs, Nigeria NDC, and climate change obligations.

¹⁹²²Ibid £800m.

¹⁹²³ Ibid £640m.

¹⁹²⁴M Bouyé and N S Schulz, Connecting the dots: Elements for a joined-up implementation of the 2030 Agenda and Paris Agreement. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2018) 16.

7.4 CONCLUSION

This research has presented and analysed key MDAs relevant to the implementation of the NCCIOs in the coming years. This research assessed the DCC, the primary climate change implementation agent against the duty of reporting, the duty to carry out climate change education and awareness, and the capacity to access climate change funding. The findings of the performance of the DCC show it has managed to submit or report some of the climate change activities at the national level. However, it is struggling to comply with the reporting obligation as the DCC is yet to submit NAMA.

The DCC and the Federal Ministry of Environment carried out climate change education and awareness programmes. However, most Nigerians are unaware of the impacts of climate change as evidence shows that climate change education in Nigeria is very low. Regarding the DCC's performance of accessing climate change funds, the DCC is not among the Agencies that have direct access to climate change funds providers. This has reflected the climate change funds the Nigerian government has received for the past years. Climate change funds the Nigerian government has received are very low compared to other developing countries.

This research also presented the climate change MDAs' collaborative role in implementing climate change obligations, SDG, and NDC linkages. Few Nigerian government ministries have individual efforts, especially the renewable development MDAs, to promote renewable energy. However, the Nigerian government has yet to push for collaboration among relevant MDAs, including the SDG implementation agencies to implement climate change obligations, key SDG, and the Nigeria NDC, even though the climate change obligation, SDG, and the Nigeria NDC are interlinked.

CHAPTER 8

LEGAL AND NON-LEGAL REFORMS: SUGGESTIONS AND CHALLENGES

8.1 INTRODUCTION

This thesis has critically examined the Nigerian climate change-related laws, policies, programmes, and institutions. There are several issues and challenges identified while examining Nigeria's climate change-related laws, policies, programmes, and institutions. Among the numerous issues identified is the possible alignment of climate change obligations, key SDGs, and the Nigeria NDC,¹⁹²⁵ absence of collaboration among climate change-related MDAs,¹⁹²⁶ lack of legislative backing to both energy and forest targets made by the Nigerian government,¹⁹²⁷ the nexus between the use of Liquefied Natural Gas and the reduction of the extraction of fuelwood,¹⁹²⁸ inactive participation of state governments in renewable energy development,¹⁹²⁹ low funding for RE development,¹⁹³⁰ the limited application of primary legislation to only CO₂ emission in gas flaring,¹⁹³¹ and many others. This chapter aims to offer legal and non-legal recommendations that will assist the Nigerian government in addressing some of the key issues and challenges identified in the previous chapters so as to achieve the Nigeria Climate Change International Obligations (NCCIOs) in the coming years.

Some of the reforms and suggestions discussed in this chapter are drawn from both developed and developing countries, such as Mexico, Canada, South Korea, Japan, United Kingdom (UK), Bolivia, Indonesia, and many others. The UK, for example, demonstrates the role of

¹⁹²⁵ Discussed in Chapter 2.

¹⁹²⁶ Discussed in Chapter 7.

¹⁹²⁷ Discussed in Chapters 5 and 6.

¹⁹²⁸ Discussed in Chapter 6.

¹⁹²⁹ Discussed in Chapter 5.

¹⁹³⁰ Discussed in Chapter 5.

¹⁹³¹ Discussed in Chapter 4.

parliament in achieving climate change targets.¹⁹³² Canada and South Korea illustrate how environmental ministries at the national level can review and update existing policies for the purpose of incorporating new climate change commitments.¹⁹³³ Canada and UK are developed countries. However, reviewing policies is what every democratic government does, and as such, this research argues that the Nigerian government could learn from these countries and review its climate change policies in line with common global trends of the climate change regime.

Examples from Indonesia and Mexico are relevant as they are developing countries like Nigeria. Indonesia is an oil producing country like Nigeria. The Indonesian government showcases how to administer fossil fuel subsidy reform and at the same time encourage Renewable Energy (RE) development.¹⁹³⁴ While Mexico has exhibited how an existing policy could be used to implement new climate change commitments at the national level.¹⁹³⁵ It is argued that if these developing countries have made efforts towards making climate change commitments a reality, then the Nigerian government could take the same or similar approach. It is important to note that the examples of the above countries discussed in this chapter may not be international best practices. However, steps taken by these countries to implement climate change commitments at various national levels serve as good examples for the Nigerian government as the country moves towards fulfilling its climate change obligations in the future.

This chapter is divided into three segments. First are the legal recommendations discussed in section 8.2. Second are the non-legal recommendations discussed in section 8.3 Third are the

¹⁹³² See the United Kingdom Climate Change Act 2008.

¹⁹³³ See A Federal Sustainable Development Strategy for Canada 2019 To 2022 http://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf > Accessed 12 March 2020.

¹⁹³⁴ See Ministry of Finance, Republic of Indonesia, Indonesia's Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > Accessed 12th September 2020.

¹⁹³⁵ J Scott, Implementing the 2030 Agenda in Mexico (CONEVAL, 2018).

overarching challenges that are likely to hinder the implementation of the reform suggestions. Finally, the overarching challenges are discussed in section 8.3.

8.1.1 SUMMARY OF THE IMPLEMENTATION OF NIGERIAN'S CLIMATE CHANGE OBLIGATIONS AND KEY SDGS.

This thesis has clearly highlighted the existing institutions and how they have been implementing Nigeria's climate change obligations. Some of the key institutions that are responsible for the implementation of the RE are the Federal Ministry of Power, the Federal Ministry of Environment, the Rural Electrification Agency, and the Energy Commission of Nigeria. Section 5.6 clearly highlighted several RE energy programmes and projects these agencies had initiated across Nigeria. First, Nigeria feed in tariff intended to stimulate 50% investment from renewables.¹⁹³⁶ However, this has not been perfected due to disagreement of price between Nigeria and Investors. The Federal Ministry of Power initiated some key hydro power plants which generate about 23.1 % of RE in Nigeria.¹⁹³⁷ However, other forms of large scale RE such as wind, solar, and many others are undeveloped due to lack of funding, commitments, and capacity.¹⁹³⁸

Aside from the RE projects, there are some other measures put in place by the Nigerian government to implement the forest obligations. They are the Tropical Forests Action Programme 1990, the Nigerian Forestry Action Programme 1990, the Inter-Ministerial Committee on Desertification and Deforestation Programme, the National Council on

¹⁹³⁶The International Energy Agency available < <https://www.iea.org/policiesandmeasures/pams/nigeria/name-154529-en.php> > accessed 12October 2019.

¹⁹³⁷ Quarterly Report, First Quarter 2019 'Nigerian Electricity Regulatory Commission (NERC) 1-72 at 27.

¹⁹³⁸See section 5.6.1 large scale RE power projects.

Shelterbelt 2004,¹⁹³⁹ the Great Green Wall, and the Green Bond project of Nigeria. All of these programmes were abandoned except the Great Green Wall, the Green Bond project of Nigeria due to lack of funding and commitments. Because of the ineffectiveness of the programme Nigeria has lost more than 50% of its forest cover since 1990 and currently less than 10% of the country is forested.¹⁹⁴⁰

Also, there is the Office of Senior Special Assistant to The President on SDGs that is responsible for the implementation of the SDGs, section 5.8 key SDG 7 projects and programmes unveil that the Nigerian government prioritise SDGs 1, 8, 3, 4, 5, 16 and 17 and left out SDG 7, 13 and 15 which is the fulcrum of this thesis. However, this section argues that the failure of the Nigerian government to leave out SDGs 7 and 15 does not mean that the Nigerian government is not carrying out activities relating to SDG 7. The thesis argued that the fulfilment of the RE project under the climate change regime could lead to the fulfilment of SDG 7 and 15.

8.1.2 SUMMARY OF THE POOR RECORD OF IMPLEMENTATION OF CLIMATE CHANGE OBLIGATION

This thesis has highlighted several reasons for the poor implementation of climate change obligations. Among several reasons highlighted is low funding in section 5.8.3 low funding of RE development and section 6.3.3 the green bond project of Nigeria. These sections highlighted that the Nigeria 2020 budget for energy-related projects is about ₦8.7 billion.¹⁹⁴¹

¹⁹³⁹ UN-REDD PROGRAMME, U.N. Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries National Programme Document, Nigeria REDD+ Readiness Programme 22 available <<http://mptf.undp.org/document/download/10974> > Accessed on 12th December 2019.

¹⁹⁴⁰ P Mfon and T A Akintoye, 'Challenges of Deforestation in Nigeria and the Millennium Development Goals. 2014 (9) 2 International Journal of Environment and Bioenergy, 76-94 at 78.

¹⁹⁴¹ Federal Republic of Nigeria, 2020 APPROPRIATION 942- 971 (budget office of the federation federal republic of Nigeria available at [2019 Budget Analysis - Budget Office of the Federation - Federal Republic of Nigeria](#) > accessed 5th 2021

(£16m) which is low compared with China and the UK. China had invested about \$100b in RE development in 2018¹⁹⁴² while the UK had invested about \$5.9bn in wind energy in 2018,¹⁹⁴³ excluding solar, biomass, and energy smart technology.¹⁹⁴⁴ The low funding is also highlighted in Nigeria's Green Bond programme for the implementation of the Paris Agreement in section 6.3.3.

Aside from low funding, another reason for poor implementation is poor prioritisation and commitment. Lack of prioritisation of key areas of need to tackle climate change in National strategy was discussed in sections 7.2.3.4 .2 'strong national plan and section' and 4.3.2 'assessment of NPCC against the principles of climate change.' These sections stated that the NPCC targets more than 14 sectors which are unlike Costa Rica's National Climate Change Strategy which identifies water and coastal zones as priority areas for adaptation intervention.¹⁹⁴⁵ While lack of commitment is discussed in section 5.5.1 'lack of legislative backing and implementation.' This section shows implementing agencies kept making policies without commitment to implement them.

Aside from these factors, other reasons for poor implementation are inconsistent follow-up, discussed in section 8.2.3.3 'periodical review of climate change policies,' lack of collaboration' analysed in section 7.3.2 'collaboration of the MDAS' and corruption and bribery discussed in section 8.4.1 'corruption and bribery.'

¹⁹⁴²NS Energy, Top 10 countries for clean energy capacity investment in 2019 available at <[Top 10 countries for clean energy capacity investment in 2019 \(nsenergybusiness.com\)](https://www.nsenergybusiness.com/top-10-countries-for-clean-energy-capacity-investment-in-2019) > Accessed 22 May 2021

¹⁹⁴³Ibid.

¹⁹⁴⁴ Ibid.

¹⁹⁴⁵World Resources Institute, 'Direct Access To Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 7-9 https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf > Accessed 21st March 2020

8.2 LEGAL REFORMS

Legal reforms in this chapter are recommendations to review programmes, and amend the Acts of Parliament, pending Bills, and Executive's policies on climate change. The following legal reforms are discussed in this section: the need to use the existing policies to align climate change obligations, Nigeria NDC, and key related SDGs, review the climate change Act, improvement of RE funding, and improvement of the forest areas to reduce GHG emissions in Nigeria.

8.2.1 UTILISE THE EXISTING POLICIES TO ALIGN CLIMATE CHANGE OBLIGATION, KEY SDGS, AND NIGERIA NDC LINKAGES

This research argues the alignment of the similar key targets of these three instruments (climate change agreements, key SDGs, and the Nigeria NDC pledges).¹⁹⁴⁶ The key areas are first, the renewable development obligation recognised in Article 4(1)(c) UNFCCC, Article 10 (1) (2) Paris Agreement, SDG targets 7:1, 7:2, 7:3 and the Nigeria energy related NDC¹⁹⁴⁷ should be considered the same in the energy sector because the fulfilment of Article 4(1)(c) UNFCCC would lead to realisation of SDG targets 7:1, 7:2, 7:3, and the Nigeria NDC energy related targets.¹⁹⁴⁸

Second, the afforestation obligation recognised in Article 5 (2) Paris Agreement,¹⁹⁴⁹ SDG targets 15:1, 15:2, 15:3 and Nigeria NDC forest related targets should also be considered the same in the forest sector because the realisation of Article 5 (2) Paris Agreement would lead to

¹⁹⁴⁶ See Chapters Five and Six.

¹⁹⁴⁷ (Work towards off-grid solar PV of 13GW (13,000MW), improve electricity grid, 2% per year energy efficiency (30% by 2030) see Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

¹⁹⁴⁸ Ibid.

¹⁹⁴⁹ See also Articles 4(1) c and Article 4 (1)d of the UNFCCC.

the fulfilment of SDG targets 15:1, 15:2, 15:3, and the Nigeria NDC forest related targets.¹⁹⁵⁰

This alignment could be achieved in two ways: either review the existing energy and forest policies and clearly map out the linkages or use the existing policies if they recognise these alignments.

a) *Review the existing policies and incorporate the Climate Change, SDG, and NDC alignments:*

The Nigerian government can take a synergistic approach to align the international climate change obligations, SDG targets, and the Nigeria NDC by reviewing the existing policies. There are few countries that have started reviewing national policies and mapping out the alignment of key areas of SDGs and national goals. For instance, Canada recently updated its 2016-2019 strategy and launched the Fourth Federal Sustainable Development Strategy.¹⁹⁵¹ This strategy is meant to be implemented from 2019 to 2022.¹⁹⁵² This strategy sets out 13 aspirational goals considered the top priorities of Canada's environmental sustainability.¹⁹⁵³ This strategy is a direct response to the 2030 agenda—the 13 goals outlined in the Canadian Strategy support 12 of the 17 SDGs.¹⁹⁵⁴ Similarly, South Korea's Third Basic Plan for Sustainable Development presents 14 strategic targets.¹⁹⁵⁵ This Third Basic Plan for Sustainable Development, unlike the First and Second Plans. The Third Basic Plan for Sustainable Development pays extra attention to strengthening key SDGs.¹⁹⁵⁶ The example of Canada and South Korea shows the effort of the national governments to review existing policies and

¹⁹⁵⁰ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 11.

¹⁹⁵¹ A Federal Sustainable Development Strategy for Canada 2019 To 2022 http://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf > Accessed 12 March 2020.

¹⁹⁵² Ibid 1.

¹⁹⁵³ Ibid.

¹⁹⁵⁴ Ibid, 14.

¹⁹⁵⁵ Year One of Implementing the SDGs in the Republic of Korea: From a Model of Development Success to a Vision for Sustainable Development 2016 National Voluntary Review (The Government of the Republic of Korea, 2016).

¹⁹⁵⁶ Year One of Implementing the SDGs in the Republic of Korea: From a Model of Development Success to a Vision for Sustainable Development 2016 National Voluntary Review (The Government of the Republic of Korea, 2016) 17.

clearly map out SDGs linkages with national top goals.¹⁹⁵⁷ Although both South Korea and Canada are developed countries, the strategy adopted by these countries could offer valuable lessons to any country, including a developing country like Nigeria. For instance, the Canadian policy was reviewed by the Environmental Ministry. The Nigerian government also has a Ministry of Environment that is responsible for reviewing environmental policies. In this sense, the Nigerian Ministry of Environment could review the energy policies and map out these linkages or alternatively use the existing energy policy if they recognise the climate change obligations.

- b) *Use the existing policies that recognise the alignment:* There are also instances where an existing policy needs no review, especially if the policy recognises national goals that are linked with SDGs. A good example is Mexico, where the National Council for the Evaluation of Social Development Policy sets out a strategy in 2012.¹⁹⁵⁸ This strategy is tagged as multi-dimensional as it deals with poverty and other developmental issues. The multi-dimensional nature of the strategy makes it suitable to address several SDG goals.¹⁹⁵⁹ Also, in Japan, the National Biodiversity Strategy of Japan 2012–2020 and the Plan for Global Warming Countermeasures established in 1979 provides a platform for integration of SDG and NDC.¹⁹⁶⁰ This suggests that an existing policy can be used to drive SDGs, climate change, and NDC at the domestic level. This research has assessed existing policies both in the energy and forest sectors that can help the Nigerian government implement climate change, SDGs, and NDC target linkages at the

¹⁹⁵⁷The report of Swedish delegation for the 2030 agenda presents proposals that support the Swedish government to fulfil SDGs, see the 2030 Agenda and Sweden – A Summary (Government Offices of Sweden, 2019); similar approach is recorded in Indonesia. See M G Bastos Lima and A Gupta, ‘The Sustainable Development Goals and REDD+: assessing institutional interactions and the pursuit of synergies (2017) 17 Int. Environ. Agreem. Polit. Law Econ. 589–606.

¹⁹⁵⁸J Scott, Implementing the 2030 Agenda in Mexico (CONEVAL, 2018).

¹⁹⁵⁹ Ibid.

¹⁹⁶⁰ ‘Sustainable Development Goal Knowledge Platform’ Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development: Maximizing Co-Benefits by Linking Implementation across SDGs and Climate Action. (United Nations 2019) at 50 ><https://sustainabledevelopment.un.org/climate-sdgs-synergies2019> > accessed 29th August 2019.

national level. In the energy sector, Nigeria already has several policies, including but are not limited to the National Energy Policy (NEP), the National Renewable Energy Efficiency Policy (NREEEP). In the forest sector, there exist the Forest Policy 2006. These policies reflect the climate change obligations, SDGs 7 and 15 key targets, and the Nigeria NDC targets. The Nigerian government may consider using these existing instruments to implement climate change, SDGs, and the Nigeria NDC targets linkages at the national level.

However, the likely challenges of using these existing policies are that several RE policies in Nigeria have different targets and deadlines. As rightly stated in chapter 5, the numerous policies and different targets enshrined in the policies may create confusion for implementation agencies to identify the current targets and policy for the Nigerian government.¹⁹⁶¹ Aside from this, Nigeria's NDC goal of renewable energy development is more ambitious than the energy policies.¹⁹⁶² Nevertheless, NREEEP might be considered since its timeframe of implementation is 2015 to 2030. It has a short, medium, and long-term plan for renewable energy development, suitable for both the SDG 7, Nigeria NDC energy targets, and the climate change obligation.

Another likely challenge of aligning similar climate change obligations, SDGs, and the Nigeria NDC is that it will lead to trade-off with perceived unaligned SDGs.¹⁹⁶³ This means that national governments may give less attention to SDGs that are not directly linked to climate change obligations, such as SDG 4, which talks about free education.

Despite the likely challenges, this research argues that the benefit of aligning the

¹⁹⁶¹ See section 5.5.2 Multiplicity of Policies and Targets.

¹⁹⁶² Ibid.

¹⁹⁶³ 'Sustainable Development Goal Knowledge Platform' Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development: Maximizing Co-Benefits by Linking Implementation across SDGs and Climate Action. (United Nations 2019) at 50 ><https://sustainabledevelopment.un.org/climate-sdgs-synergies2019> > accessed 29th August 2019.

climate change obligations, SDGs, and the NDC by using the existing policies cannot be overemphasised. This alignment would make the Nigerian government focus on top priority areas (the energy and the forest sectors) of the three instruments, that is, climate change regime, SDGs, and the Nigeria NDC targets from now until 2030. It will also encourage top MDAs to collaborate on improving RE and reducing GHG emissions in key sectors in Nigeria. Such alignment will enable investors to identify key priorities of the Nigerian government and invest in core sustainable development needs.¹⁹⁶⁴ Most importantly, it will enable the Nigerian government to channel resources to meet the key areas of these three instruments. This is what exactly what the Mexican government did where MDAs were requested to match budget programmes to the top priority areas of SDG and national goals.¹⁹⁶⁵ In the Nigerian context, it is likely to ensure climate change MDAs pursue a low carbon emission pathway that is crucial to the government.

8.2.2 ENCOURAGE MDAs COLLABORATION TO IMPLEMENT CLIMATE CHANGE, SDGs, AND NIGERIA NDC LINKAGES

The recognition of the synergy of climate change, key SDGs, and the Nigeria NDC require top MDAs to cooperate and implement climate change obligation, key SDGs, and the Nigeria NDC linkages. In this sense, the Nigerian government may consider the coalition of the lead MDAs in both the energy and forest sectors such as, the Energy Commission of Nigeria, the Rural Electrification Agency, and the office of Senior Special Assistant to the President on SDGs that is responsible for the implementation of the SDGs. This research has shown how countries

¹⁹⁶⁴World Resources Institute, 3 New Ways to Explore Links Between Climate and Sustainable Development available at < <https://www.wri.org/blog/2017/12/3-new-ways-explore-links-between-climate-and-sustainable-development> > Accessed 21st March 2020.

¹⁹⁶⁵ Mathilde Bouyé, Connecting the Dots: Elements for a Joined-Up Implementation of the 2030 Agenda and Paris Agreement (GIZ 2018) 48.

like Mexico and Japan are encouraging close collaboration between SDGs and NDC implementing MDAs at the national level.¹⁹⁶⁶

However, there are growing concerns regarding countries that are implementing SDGs and NDC linkages by existing MDAs. For instance, climate change instruments and the SDGs agenda have their respective histories and already established implementation agencies in different sectors.¹⁹⁶⁷ More so, there are likely issues of functional overlap among ministries while implementing interlinkages. Despite these concerns, three MDAs in Mexico collaborated to implement SDG and NDC linkages.¹⁹⁶⁸

Chapter 7 of this thesis demonstrated that the Nigerian government has an existing structure of SDG implementation that cut across the 36 states and the National Assembly.¹⁹⁶⁹ The implementation of the SDGs in Nigeria is being coordinated by the office of Senior Special Assistant to the President. On this note, the office of Senior Special Assistant to the President on SDGs needs to collaborate with relevant MDAs that are implementing climate change obligations and the NDC, such as the Energy Commission of Nigeria, the Rural Electrification Agency etc, prioritize SDG 7 and 15 key linkages with climate change obligations and the Nigeria NDC targets. There are four ways to promote further collaboration and implementation. First, the office of Senior Special Assistant to the President on SDGs needs to convene a meeting of relevant MDAs to recognise the synergy of climate change obligation, key SDGs 7 and 15 targets, and the Nigeria NDC targets. Second, the executive arm of the government may direct funds to these key MDAs to focus on the key synergies. This may help

¹⁹⁶⁶ Discussed in Chapter 7.

¹⁹⁶⁷ ‘Sustainable Development Goal Knowledge Platform’ Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development: Maximizing Co-Benefits by Linking Implementation across SDGs and Climate Action. (United Nations 2019) at 23 ><https://sustainabledevelopment.un.org/climate-sdgs-synergies2019> > accessed 29th August 2019.

¹⁹⁶⁸ M Bouyé, and N S Schulz, Connecting the dots: Elements for a joined-up implementation of the 2030 Agenda and Paris Agreement. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2018) 16.

¹⁹⁶⁹ B Muhammad, ‘Implementation of the SDGs A National Voluntary Review (2017) at 54 available, <https://sustainabledevelopment.un.org/content/documents/16029Nigeria.pdf> > Accessed 11th April 2020.

to achieve RE development and forest enhancement in Nigeria. Third, the implementing MDAs needs to be monitored, reviewed by the office of Senior Special Assistant to the President on SDGs and the Inter-ministerial committee on climate change.¹⁹⁷⁰ Fourth, the Nigerian Parliament will also be involved in the monitoring and implementation process. The Parliament has an oversight function by the Nigerian 1999 Constitution. The Constitution required the Parliament to ensure projects under the national budgets are duly executed by the Executive arm of the government.¹⁹⁷¹ This is similar to the Climate Change Act of the UK, which requires the Secretary of the State to lay a report before Parliament and explain the status of UK emission annually.¹⁹⁷² Therefore, the MDAs responsible for the implementation of climate change obligations may report to the Nigerian Parliament the level of successes and challenges. This report needs to be made with a specified time frame, and such reporting will enable Parliament to provide a supervisory role to ensure the synergies are well coordinated and implemented.

8.2.3 THE DCC TO IMPROVE CAPACITY AND PERIODICALLY REVIEW CLIMATE CHANGE POLICIES

The DCC is the major climate change agency in Nigeria. Its duties include but are not limited to reporting climate change activities at the national level, accessing climate change funds, and many others.¹⁹⁷³ Chapter 7 of this research presents that the DCC has not prepared and

¹⁹⁷⁰The Inter-ministerial committee on climate change comprises several ministries, such as, the Federal Ministry of Agriculture ii. Federal Ministry of Water Resources iii. Federal Ministry of Finance iv. Federal Ministry of Industry v. Federal Ministry of Justices vi. Ministry of Petroleum Resources vii. Ministry of Foreign Affairs viii. Nigerian Meteorological Agency ix. National Planning Commission X. Energy Commission of Nigeria xi. National Electric Power Authority; see The Ministry of Environment of the Federal Republic of Nigeria (2003) Nigeria's First National Communication Under the United Nations Framework Convention on Climate change (UNFCCC) 97.

¹⁹⁷¹ See section 80-90 Constitutional of Federal Republic of Nigeria 1999 as Amended.

¹⁹⁷² See section 12 of Climate CHANGE Act of UK 2008.

¹⁹⁷³ See Chapter seven.

submitted NAMA.¹⁹⁷⁴ Aside from climate change reporting, climate change fund the Nigerian government has received is far less than countries that have direct access to climate change funds.¹⁹⁷⁵ To effectively report climate change activities as well as accessing climate change funds, the DCC should consider the following to improve its capacity. First, personnel of the DCC needs to be trained with current climate change knowledge. Therefore, skill transfer programmes are needed to train personnel at the national level, especially workshops targeted to comply with Biennial Report guidelines for non-Annex 1 countries¹⁹⁷⁶ and other climate change reports in the future. Reporting climate change activities is important because transparency and accountability of financial contributions and level of success at the national level is only known by timely reporting climate change activities at the national level.¹⁹⁷⁷

8.2.3.1 REVIEW THE NATIONAL POLICY OF CLIMATE CHANGE (NPCC)

There is a need to review the NPCC in line with Nigeria's NDC. The NPCC, a flagship of Nigeria's climate change policy, presently targets more than 14 sectors without prioritising key sectors. Prioritising key areas of needs in national policy is important because it guides the government's top priority areas to invest funds. Prioritising key areas of needs in climate change policy also helps countries 'seeking direct access to climate finance identify priority areas for intervention.'¹⁹⁷⁸ In this sense, this research argues that the DCC responsible for the

¹⁹⁷⁴ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) at 18.

¹⁹⁷⁵ See Chapter Seven.

¹⁹⁷⁶ Department of Environmental Affairs Republic of South Africa, SOUTH AFRICA'S 3RD BIENNIAL UPDATE REPORT TO THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (2019) available at page 176 <https://unfccc.int/sites/default/files/resource/Final%203rd%20BUR%20of%20South%20Africa%20100.pdf> > Accessed 10 August 2020 .

¹⁹⁷⁷ Liane Schalatek, and Neil Bird., The Principles and Criteria of Public Climate Finance - A Normative Framework at page 4 <https://www.odi.org/sites/odi.org.uk/files/resource-documents/11849.pdf> > Accessed 6th August 2020.

¹⁹⁷⁸ World Resources Institute, 'Direct Access to Climate Finance: Lessons Learned By National Institutions' (2015 Working Paper) at page 7-9 <https://wriorg.s3.amazonaws.com/s3fs->

NPCC needs to review it and align it with the Nigeria NDC, which clearly highlights two major sectors (forest and energy). This may help the government to know the top priority areas to invest in.

8.2.3.2 REVIEW THE NATIONAL ENERGY POLICY (NEP)

Chapter 5 of this thesis analysed NEP. NEP is a sectoral energy policy and was updated in 2019.¹⁹⁷⁹ However, Chapter 3 of the NEP promotes unclean energy, particularly coal production. Coal production increases GHG emissions in the energy sector¹⁹⁸⁰ and to comply with the commitments under the Paris Agreement, phasing out coal production is a must.¹⁹⁸¹ However, proponents of coal production suggest that carbon capture and storage machine will offset emissions from coal-fired power plants.¹⁹⁸² Nigeria has not developed such machines that will help the country to capture carbon from coal-fired power plants. Besides, coherence in policy with climate change obligations is mandatory for the achievement of climate change obligations. Therefore, chapter 3 of NEP that encourages coal production is not coherent with the climate change obligations, which aim is to reduce GHG emissions. In this sense, the DCC and the Ministry of Environment responsible for this policy need to review chapter 3 of the NEP (coal and tar sands/bitumen policy).

8.2.3.3 PERIODICAL REVIEW OF CLIMATE CHANGE POLICIES

A periodic review of climate change policies is crucial for the achievement of climate change obligations at the national level. This is because when climate change policies are reviewed

[public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf](#) > Accessed 21st March 2020.

¹⁹⁷⁹ See chapter 5.

¹⁹⁸⁰S Alam, 'Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 11 – 12.

¹⁹⁸¹A Paola and U Fuentes, Global and regional coal phase-out requirements of the Paris Agreement: Insights from the IPCC Special Report on 1.5°C (Climate Analytics 2019) page 9 available at https://climateanalytics.org/media/report_coal_phase_out_2019.pdf > accessed 10 October 2020

¹⁹⁸² R Cervigni and M Henrion, Low-Carbon Development: Opportunities for Nigeria (eds., 2013 The World Bank) 88-89.

periodically, it allows taking account of new demands such as technology need to fulfil the obligations, whether projects are coherent with the policy, whether the existing policies will meet the national goals and make future predictions and likely challenges. One key gap of the implementing agencies in Nigeria is the lack of periodic review of the policies, which is why the targets enshrined in both the forest policy and the various RE energy were not achieved. As highlighted in chapter 4, NEP was drafted in 2003 and was reviewed in 2013.¹⁹⁸³ This is about 10 years. Countries that have made an effort in the fight against climate change consistently update and review policies periodically. For instance, Costa Rica Electricity Expansion Plan 2016-2035 is updated and reviewed every 2 years.¹⁹⁸⁴ The Canadian Federal Sustainable Development Act 2008 provides for the Federal Sustainable Development Strategy. The Act requires the ministry of environment to present a new strategy every 3 years by reflecting new priorities.¹⁹⁸⁵ Therefore, the DCC should periodically review NEP, NPCC, NREEEP, and other existing relevant policies that promote RE and forest development.

8.2.4 PARLIAMENT TO UPDATE AND AMEND THE CLIMATE CHANGE ACT

Chapter four of the thesis showed that the Climate Change Act of Nigeria has been signed into law. However, there is a critical defect highlighted in chapter four in relation to the Climate Change Act of Nigeria. That is, the Climate Change Act of Nigeria does not incorporate climate change targets of the Nigeria NDC, which is crucial to the Nigerian government in the climate change regime.¹⁹⁸⁶ In this regard, the Nigerian Parliament may consider the following:

¹⁹⁸³ See Chapter 4 at 5.3.1 National Energy Policy (NEP).

¹⁹⁸⁴EIA, Costa Rica Electricity Generation Expansion Plan 2016-2035 (Plan de Expansion de la Generacion Electrica) 2017 available at [Costa Rica Electricity Generation Expansion Plan 2016-2035 \(Plan de Expansion de la Generacion Electrica\) 2017 – Policies - IEA](#) > accessed 12th April 2020.

¹⁹⁸⁵A Federal Sustainable Development Strategy for Canada 2019 to 2022 at 1 http://fsds-sfdd.ca/downloads/FSDS_2019-2022.pdf > Accessed 12 March 2020.

¹⁹⁸⁶ See Chapter five.

a) *Update and include the main targets of the Nigeria NDC into the Climate Change Act:*

Achievement of the NICCOs in the coming years requires the Nigerian parliament to legislate on key targets of the Nigeria NDC such as work towards off-grid solar PV of 13GW (13,000MW), efficient gas generators, 2% per year energy efficiency (30% by 2030)¹⁹⁸⁷ and the 25% increase of forest area contained in the forest policy.¹⁹⁸⁸ Therefore legislative backing for climate change targets is crucial, and binding laws are required to drive the mandatory implementation by the Executive arm of the government. Another jurisdiction like the UK has started using Parliamentary powers to achieve climate change targets. For instance, the preamble of the Climate Change Act 2008 of the UK clearly states that this Act is ‘to set a target for the year 2050 for the reduction of targeted greenhouse gas emissions.’ The Climate Change Act of the UK sets out a carbon budgeting system to help the government focus and stay on track to achieve an 80% reduction of emissions of GHG by 2050. Ministers must report on the policies and implement them to meet carbon budgets and produce an annual report to Parliament on the status of UK emissions.¹⁹⁸⁹ Over the years, the UK government’s efforts resulted in a decline in GHG emissions.¹⁹⁹⁰ The UK government outperformed the first (2008–2012) and second (2013–2017) carbon budgets.¹⁹⁹¹ Though, the Committee on Climate Change, the watchdog of UK climate change, said that it is difficult to meet the fourth (2023 to 2027) and the fifth (2028 to 2032) carbon budgets.¹⁹⁹² However, the implication of not meeting up the

¹⁹⁸⁷ See chapter three.

¹⁹⁸⁸ See chapter Six.

¹⁹⁸⁹ Grantham Research Institute on climate change and the environment <http://www.lse.ac.uk/GranthamInstitute/law/climate-change-act-2/> > accessed 8th April 2020.

¹⁹⁹⁰ Department for business, energy and industry strategy (2019 UK greenhouse gas emissions, provisional figures) 1-6 <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/875485/2019_UK_greenhouse_gas_emissions_provisional_figures_statistical_release.pdf>> accessed 24 August 2020.

¹⁹⁹¹ The UK successfully reduced about 14% emissions in the second budget period see A report for the Committee on Climate Change, How the UK met its carbon budgets Covering carbon budgets 1 and 2 (Cambridge Econometrics 2019) at available at <https://www.theccc.org.uk/wp-content/uploads/2019/07/How-the-UK-met-its-carbon-budgets.pdf> > accessed 15 October 2020.

¹⁹⁹² S Priestley, Briefing Paper UK Carbon Budgets, (House of Commons Library 2019) 19 -20

fourth and fifth budgets may attract litigation by citizens since the binding targets and carbon budgets are set up by the Climate Change Act of 2008.¹⁹⁹³

Indeed, the UK is a developed country; but the process of making law is similar to the Nigerian Parliament.¹⁹⁹⁴ Therefore, the Nigerian Parliament could learn from this UK Climate Change Act that set a binding 80% emissions reduction. This research recommends that the Nigeria NDC targets, as already mentioned above, and the 25% increase of forest area contained in the forest policy¹⁹⁹⁵ should be incorporated into the current Climate Change Act of Nigeria. This could encourage Nigerian citizens to bring an action in court to compel the Nigerian government to fulfil its climate change obligations if the government fails to implement these key commitments and targets.

c) *Parliament to pass CO2 tax Act to cover all industries that emit GHG*: Chapter 4 of this research clearly stated that the primary legislation is restricted to reducing emissions in gas flaring. In order to control all sectors that emit GHG in Nigeria, the Nigerian Parliament may initiate a private member Bill of CO2 tax that will impose taxation on all activities that emit GHG in Nigeria. Activities such as manufactural activities, construction, coal mining, petroleum refining, cement production, iron and steel, and many others that emit GHG should be under the tax to discourage fossil fuel use and reduce emissions. Although the use of CO2 tax as part of a market-based instrument is criticised; the CO2 tax only sets a price for carbon emissions, but it does not set a cap like an emission trading scheme. The consequence is that if

¹⁹⁹³ See *Plan B Earth and Others v. The Secretary of State for Business, Energy, and Industrial Strategy* [2018] AC 16 ; S Evans, UK will miss climate goals despite new strategy, says official watchdog (Carbon Brief 2018) available at <https://www.carbonbrief.org/uk-will-miss-climate-goals-despite-new-strategy-says-official-watchdog> > accessed 10th September 2020.

¹⁹⁹⁴ The UK and Nigeria practice a bicameral legislation where bill requires the assent of the queen to become a law.

¹⁹⁹⁵ See chapter Six.

polluters are willing to pay the tax, emissions will continue to rise.¹⁹⁹⁶ Again, an argument against the CO₂ tax is that an overburdened tax may compel companies to shift their production process to countries with less or without a CO₂ tax.¹⁹⁹⁷ Despite these concerns, this research argues that a clear and fair price of CO₂ that the polluter can pay will abate emissions in Nigeria. As already noted, CO₂ pricing is essential for effective climate action at the national level.¹⁹⁹⁸ This research has already shown how Norway has successfully implemented CO₂ to reduce gas flaring and reduce GHG emissions.¹⁹⁹⁹ Therefore, the national assembly of Nigeria should consider initiating a CO₂ Bill that will regulate GHG emissions in all the sectors that emit GHG.

8.2.5 IMPROVE THE PRODUCTION OF RENEWABLE ENERGY (RE)

RE development is the solution to low emission pathways.²⁰⁰⁰ The review of RE projects in Nigeria reveals that RE has not formed part of an on-grid connection except hydro.²⁰⁰¹ Presently, 70% of the rural population in Nigeria does not have access to the national grid.²⁰⁰² Most Nigerians still rely on off-grid electricity generation.²⁰⁰³ About 50% of the electric energy

¹⁹⁹⁶ Eric Heymann, Carbon tax Better than the status quo, but not the optimal solution (2019) Deutsche Bank Research 1-4.

¹⁹⁹⁷ A Baranzini, and J Roca, 'Carbon pricing in climate policy: seven reasons, complementary instruments, and political economy considerations. Wiley Interdisciplinary Reviews: 2017 (8) 4 Climate Change, 8(4) Pages 8-7.

¹⁹⁹⁸ P Criqui, and T Sterner, 'Carbon taxation: a tale of three countries (2019) 11 (22) Sustainability, 11(22), 2-21; A Baranzini, and E Padilla, 'Seven reasons to use carbon pricing in climate policy (2016) The Centre for Climate Change Economics and Policy (CCCEP) 2-14; J Aldy and R Stavins, 'The promise and problems of pricing carbon: Theory and experience (2012) 21 (2) The Journal of Environment & Development, 152-180.

¹⁹⁹⁹ See chapter 4.

²⁰⁰⁰ Z A Elum, and A S Momodu, 'Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach (2017) 76 Renewable and Sustainable Energy Reviews, 72-80 at 72 75.

²⁰⁰¹ See Chapter Six.

²⁰⁰² M O Oseni, 'Improving households' access to electricity and energy consumption pattern in Nigeria: Renewable energy alternative (2012)16 (6) Renewable and Sustainable Energy Reviews,3967-3974 at 3967 ; National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria at 18 <<http://admin.theiguides.org/Media/Documents/NREEE%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf>> Accessed 12 January 2019.

²⁰⁰³ See K Ley and A Ghatikar, 2015 'The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification' 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 34.

consumed by the citizens is being generated off-grid. This is mainly from fossil fuel (diesel and gasoline generating sets).²⁰⁰⁴ Nigerians ‘spend around \$14 billion (£10.7b) (NGN 5 trillion) annually on small-scale generators.’²⁰⁰⁵ To improve the present situation and have RE penetration into the national grid, the Nigerian government should consider the following: First, implement the existing RE policies, and second, increase fund to drive RE projects in Nigeria.

Chapter four of this thesis has assessed the existing RE policies in Nigeria. These policies, especially NREEEP, incorporate the climate change obligations, and as such, it could serve as a road map for the implementation of the RE in Nigeria. How these policies should be implemented is already highlighted in section 8.2.1.²⁰⁰⁶ The most crucial aspect of achieving the obligations contained in the RE policies is funding. The assessment of Nigeria’s government efforts to increase RE projects in chapter five shows that Nigeria’s budget for RE development is low.²⁰⁰⁷ Countries that have successfully increased RE development have to increase the budget for RE or look for a way to raise funds internally to meet RE demands. For instance, Costa Rica, a developing country, has shown determination to raise funds internally and invest in RE development. Costa Rica RE supply is about 98.1 percent, and fossil fuel is just 1.9 percent.²⁰⁰⁸ Costa Rica, in 2019 lunched a national decarbonisation plan that aims to become a zero-emission country in 2050.²⁰⁰⁹ Costa Rica was able to increase RE generation due to the elimination of the military of Costa Rica in 1948. This saved millions of dollars from the government defence budget, and the monies were invested in social programme and RE

²⁰⁰⁴ R Cervigni and M Henrion, Low-Carbon Development: Opportunities for Nigeria (eds., 2013 The World Bank) 77.

²⁰⁰⁵ Mordor Intelligence, Nigeria Power Market - Growth, Trends, And Forecast (2020 - 2025) available at <https://www.mordorintelligence.com/industry-reports/nigeria-power-market> > Accessed 13th August 2020.

²⁰⁰⁶ 8.2.1 utilise the existing policies to achieve climate change obligation, key SDGs, and Nigeria NDC linkages.

²⁰⁰⁷ See section 5.8.3 Low funding of RE development.

²⁰⁰⁸ [Maria Gallucci](#), Costa Rica ran almost entirely on renewable energy in 2016 (Mashable UK 2017) available at [Costa Rica ran almost entirely on renewable energy in 2016 \(mashable.com\)](https://mashable.com/2017/04/06/costa-rica-renewable-energy/) > accessed 2ND April 2021.

²⁰⁰⁹ Adrien Vogt, National Decarbonization Plan 2018- 2050 available at < [NationalDecarbonizationPlan.pdf \(unfccc.int\)](https://www.unfccc.int/national-decarbonization-plan-2018-2050) > accessed 6th April 2021.

generation.²⁰¹⁰ This research argues that Nigeria could ramp up its RE generation if the government stops its harmful subsidy, ringfence fines realised from MOC, then it could save millions of dollars to invest in RE. These and other points are elaborated below.

A) *Reduce fossil fuel subsidy and invest in RE development:* Chapter five has shown that Nigeria spent more than ten trillion naira in petrol subsidy, and the handlers of the programme stole these monies.²⁰¹¹ This programme was meant to reduce the pump price of petroleum to allow the poor access basic things and stabilize the economy, but it has no significant impact on the poor mass and the economy as rightly noted blank reduction of price benefit the rich more than the poor.²⁰¹² Due to the significant amount of money spent on the subsidy programme other social investments like schools, hospitals, and RE development have been impacted negatively.²⁰¹³ Most importantly, chapter 5 argued that achieving the NICCOs requires programmes to be coherent with the climate change obligations. The Nigeria fossil fuel programme is not coherent with the climate change obligations because the more money budgeted for fossil fuel, the lower the price of fossil fuel, which will discourage the demand for RE, which is why the World Bank states that climate change cannot be addressed without addressing fossil fuel subsidies.²⁰¹⁴ Most academics agreed that the removal of harmful

²⁰¹⁰ David P. Barash, Costa Rica's peace dividend: How abolishing the military paid off (Los Angeles Times 2013) available at [Costa Rica's peace dividend: How abolishing the military paid off - Los Angeles Times \(latimes.com\)](https://www.latimes.com) accessed 6th April.

²⁰¹¹ G Okeowo, Nigeria's Petrol Subsidy Regime Dilemma of the world's most populous black nation (BudgIT 2019) available at < http://fixouroil.com/wp-content/uploads/2019/03/Nigerias-Petrol-Subsidy-Regime_BudgIT.pdf > Accessed 11th March 2020.

²⁰¹²W Shelagh Whitley and Laurie van der Burg, Fossil fuel subsidy reform in sub-Saharan Africa: from rhetoric to reality (Working Paper Washington DC 2015).

²⁰¹³N McCulloch and J Yang, Fuel subsidy reform and the social contract in Nigeria: A micro-economic analysis (WORKING Paper ICTD 2020) 3.

²⁰¹⁴ The World Bank, Reforming Fossil Fuel Subsidies for a Cleaner Future. Available at <https://www.worldbank.org/en/news/feature/2017/11/21/reforming-fossil-fuel-subsidies-for-a-cleaner-future> >Accessed 14 August 2020 .

subsidies is necessary to meet the Paris Agreement.²⁰¹⁵ More so, the Nigeria NDC clearly anticipates the removal of consumer subsidies for fuel.²⁰¹⁶

Few countries have started fossil fuel subsidy removal. For instance, the Indonesian government enacted Presidential Regulation,²⁰¹⁷ which completely removed gasoline subsidy and encouraged biodiesel as alternative energy. Since 2016, the Indonesian government has implemented a 20% blending of biodiesel.²⁰¹⁸ With these measures, Indonesia could cut its fuel subsidy from \$13.6 billion (£10.5b) in 2014 to only \$1.6 billion (£1.2b) in 2015.²⁰¹⁹ Now the government could invest more in education and other infrastructures.²⁰²⁰ Recently the minister of petroleum in Nigeria announced that the removal of fuel subsidy in Nigeria would save ₦1trillion (£50billion).²⁰²¹ In this sense, the Nigerian government should consider removing its fuel subsidy programme and use the money to invest in RE development and other social programmes. The Nigerian government can achieve this if the parliament amend the Price Control Act and removes petrol from this law. Thereafter, increase the social intervention

²⁰¹⁵R Jackson and G Peters, ‘Persistent fossil fuel growth threatens the Paris Agreement and planetary health (2019) 14(12) Environmental Research Letters at 7; P Brink and F Oosterhuis, ‘the way forward: reforming EHS in the transition to a green economy. In *Paying the Polluter* (Edward Elgar Publishing 2014); H Pereira, ‘How the WTO can help tackle climate change through fossil fuel subsidy reform (2018) International Centre for trade and sustainable development at 24.

²⁰¹⁶ Nigeria’s Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment 15

²⁰¹⁷ Regulation NO.191/2014.

²⁰¹⁸Ministry of Finance, Republic of Indonesia, Indonesia’s Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia at 18 Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > accessed 2nd 2020.

²⁰¹⁹ Ministry of Finance, Republic of Indonesia, Indonesia’s Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia at 22 Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > accessed 2nd 2020.

²⁰²⁰ Ministry of Finance, Republic of Indonesia, Indonesia’s Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia at 22 Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > accessed 2nd 2020.

²⁰²¹ A Adamu, Nigeria to save N1 trillion with subsidy removal, says Sylva (Guardian Newspaper 2020) available at [Nigeria to save N1 trillion with subsidy removal, says Sylva | The Guardian Nigeria News - Nigeria and World News](https://www.guardiannews.com/news/nigeria-to-save-n1-trillion-with-subsidy-removal-says-sylva) > Accessed 11 May 2021.

programmes such as Conditional Cash Transfer Programme,²⁰²² Government Enterprise and Empowerment Programme²⁰²³ to cover more people in the country. This is what the Indonesian government did when it removes its fuel subsidy. The government mitigates the tension with social support programme like unconditional money transfer, which directly targets the poor.²⁰²⁴ This was also the case of Ukraine when it increased the gas tariff by 470%.²⁰²⁵ The Ukrainian government increased the social safety net.²⁰²⁶ The system allows people to apply for social assistance to cushion the effect. The number of people under a social safety net increase from 1 million to 7 million.²⁰²⁷ This research argues that if the Nigerian government could put these measures in place and remove its petrol subsidy, the Nigerian government could save millions of pounds for RE development and other social infrastructural development. However, the following challenges remain, the removal of subsidy could give rise to inflation due to panic buying. It also attracts labour unions, citizens, and proponents of subsidies to stage protests which can cause social disorder and cues. Civil protests due to subsidy removal are one of the greatest challenges the Indonesian government faced.²⁰²⁸ The assessment of the Indonesian government shows that diesel and kerosene are still subsidised, but it is strictly

²⁰²² This is a direct cash transfer programme to 5 million poor Nigeria with the aim of lifting them out poverty

²⁰²³ This programme is to provide loan between 10,000, 100,000 to SME without interest. See R Onah and C Olise, National Social Investment Programme (N-SIP) and Sustainable Poverty Reduction in Nigeria: Challenges and Prospects (2020) 24 (10) IOSR Journal of Humanities and Social Sciences, 20-31.

²⁰²⁴ Ministry of Finance, Republic of Indonesia, Indonesia's Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia at 28 Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > accessed 2nd 2020.

²⁰²⁵ The World Bank, Reforming Fossil Fuel Subsidies for a Cleaner Future. Available at <https://www.worldbank.org/en/news/feature/2017/11/21/reforming-fossil-fuel-subsidies-for-a-cleaner-future> >Accessed 14 August 2020.

²⁰²⁶The World Bank, Reforming Fossil Fuel Subsidies for a Cleaner Future. Available at <https://www.worldbank.org/en/news/feature/2017/11/21/reforming-fossil-fuel-subsidies-for-a-cleaner-future> >Accessed 14 August 2020.

²⁰²⁷The World Bank, Reforming Fossil Fuel Subsidies for a Cleaner Future. Available at <https://www.worldbank.org/en/news/feature/2017/11/21/reforming-fossil-fuel-subsidies-for-a-cleaner-future> >Accessed 14 August 2020.

²⁰²⁸ Rentschler, J. and Bazilian, M., 2017. Reforming fossil fuel subsidies: drivers, barriers, and the state of progress. *Climate Policy*, 17(7), pp.891-914.

targeted to public transport services and poor farmers.²⁰²⁹ So, the Nigerian government may face similar or more challenges if the government completely removes fuel subsidy. Aside from this perceived challenge, corruption, especially how monies saved from subsidy will be used judiciously in RE development, is a major concern. The issue of corruption is one of the overarching challenges discussed in section 8.4. Despite all these concerns, this research recommends removing subsidies to improve RE development in Nigeria. This will enable the Nigerian government to meet its RE climate change obligations.

B) Use fine from fossil fuel in RE development: As discussed in chapter 4 of this thesis, the Associated Gas Reinjection Act 1979 and 2018 Regulation incorporate the Polluter Pays Principle, sanctions are imposed on Multinational Oil Corporations (MOCs), and fines have been paid to the Nigerian government.²⁰³⁰ The aim is to compel polluters to switch from traditional fossil fuel use to cleaner energy as well as to raise revenue.²⁰³¹ In order to expand RE development in Nigeria, this research suggests that fines realised from gas flaring should be channel into RE development. It is unclear what programmes the Nigerian government invests with the funds realised from gas flaring since no law stipulates what to do with such funds. Considering that RE development is one of the key obligations of the climate change instruments, the Nigeria NDC commitments, and SDG 7, the Nigerian government may ring-fence fines realised from gas flaring to ensure such funds go directly to RE development. This could be made possible if the Minister of Petroleum passes the necessary regulations²⁰³² and clearly stipulates what to do with fossil fuel-related fines. In this regard, fines realised from gas

²⁰²⁹Ministry of Finance, Republic of Indonesia, Indonesia's Effort to phase out and rationalize its fuel subsidies, A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia at 17 Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > accessed 2nd 2020.

²⁰³⁰ See Chapter four.

²⁰³¹ A Pegels, 'Taxing carbon as an instrument of green industrial policy in developing countries, Discussion paper (2016) 23 Enconstor, at 6-10; A Pegels, 'Taxing carbon in developing countries' 2018 German Development Institute.

²⁰³² Section 9 of the Petroleum Act gives power to the Minister of Petroleum to pass regulation.

flaring will be channeled into RE development. However, fines are not always paid by the MOCs to the government, the MOCs evade taxes and penalties.²⁰³³

c) Impose a tax on the importation of diesel and petrol generating sets: Chapter 5 of this research showed that about 50% of the electric energy consumed by Nigerians is off-grid, and these are gasoline generators.²⁰³⁴ This type of energy is one of the major sources of pollution in Nigeria.²⁰³⁵ Therefore, there is a strong need to activate measures to discourage massive importation and the use of petrol and diesel generating sets in Nigeria. This research contends that the Nigerian government could discourage the use of generating sets in Nigeria by imposing tax on the importation of diesel and petrol generating sets. This could be made possible by amending and passing into law the current Bill presented in the Senate titled ‘a bill for an Act to prohibit/ban the importation of generating sets...’²⁰³⁶ This Bill was presented in the Senate, and this Bill intends to ban the importation of generating sets so as to curb the menace of air pollution. Nigerians criticised this Bill because there is no adequate power supply in Nigeria, and as such, a ban on importation of generating sets is not justified.²⁰³⁷ Instead of a complete ban on the importation of generator sets, this research suggests the following:

First, the Bill should be amended to impose a tax on importers to gradually discourage the use of energy sources that emit GHG, including generating sets. Imposition of tax to discourage energy sources that emit GHG was initiated in India. The Indian government imposed a carbon tax on both imported and locally produced coal in 2014.²⁰³⁸ In 2017, the tax on coal

²⁰³³ Twenty-five years of climate change failure (Current Biology.Publisher) available at [https://www.cell.com/current-biology/pdf/S0960-9822\(15\)00397-8.pdf](https://www.cell.com/current-biology/pdf/S0960-9822(15)00397-8.pdf) > Accessed 11th August 2020.

²⁰³⁴ R Cervigni and M Henrion, Low-Carbon Development: Opportunities for Nigeria (eds., 2013 The World Bank) 77.

²⁰³⁵ See chapter five.

²⁰³⁶ Q Iroanusi, Nigerian Senator introduces Bill to ban importation of Generator (Premium Times 2020) available at < [JUST IN: Nigeran Senator Introduces Bill To Ban Importation Of Generator \(premiumtimesng.com\)](https://www.premiumtimesng.com/news/local-news/1000000-just-in-nigerian-senator-introduces-bill-to-ban-importation-of-generator/) > accessed 13 April 2021 .

²⁰³⁷ VANGAURD Newspaper 2020, Laughable Bill to ban generators available at < [Laughable Bill to ban generators - Vanguard News \(vanguardngr.com\)](https://www.vanguardngr.com/2020/04/laughable-bill-to-ban-generators/) > accessed 17th April 2021.

²⁰³⁸ Discussion Paper on Carbon Tax Structure for India (Shakti Sustainable Energy Foundation & EY 2018)

consumption was abolished, and it was replaced with the Good and Services Tax (GST compensation cess).²⁰³⁹ This tax was utilized to fund renewable energy projects in India.²⁰⁴⁰ Though the tax levied was criticised, it does not cover other sources of GHG emission such as diesel and petrol.²⁰⁴¹ The tax was described as a means of generating revenue for the states, and it is not enough to compel producers to shift towards RE development.²⁰⁴² Though the coal tax has not been able to stop the importation of coal and the use of coal in electricity generation in India, it has recorded a decline in coal importation in 2016.²⁰⁴³ Not only the coal tax reduced importation but it also generated revenue for the National Clean Energy Funds.²⁰⁴⁴ This research argues that amending the Bill to recognise tax regime as India did on coal may discourage the use of diesel and petrol generating sets in the country.

Second, provide incentives to encourage rooftop PV systems. This research is aware that imposing a tax on the importation of gasoline generators alone will not totally stop the use of petrol and gasoline generators. Tax will only increase the price, but wealthier citizens could still afford to pay increased prices. To further discourage the use of diesel and petrol generating sets, the Nigerian government also needs to encourage incentives or subsidies for solar systems, especially rooftop PV systems and other carbon technology²⁰⁴⁵ for rural and urban areas of the

²⁰³⁹David Turvey, Coal in India (2019) at page 14 available at < [Coal in India 2019 \(industry.gov.au\)](#) > Accessed 14th April 2021.

²⁰⁴⁰S Alam, 'Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 11.

²⁰⁴¹ M Fahad, 'Carbon Tax on Fuels: India's New Initiative 2021 (12) 7 Turkish Journal of Computer and Mathematics Education 1229-1233 at 1229.

²⁰⁴²I Chaturvedi, The Carbon Tax Package: An Appraisal of Its Efficiency in India's Clean Energy Future. (2016) CCLR, p.194 at 200; U Kalita, and N A Barua, Determining a carbon tax rate for India in the context of global climate change. (2019) 8 (3) International Journal of Recent Technology and Engineering, 2277-3878 at 8185.

²⁰⁴³ B Tim, [Another Doubling of Coal Tax in India Shows Momentum in Global Electricity-Sector Transformation](#) (Institute for Energy Economics and Financial Analysis 2019) available at < [Another Doubling of Coal Tax in India Shows Momentum in Global Electricity-Sector Transformation - Institute for Energy Economics & Financial Analysis \(ieefa.org\)](#) > accessed 29 April 2021.

²⁰⁴⁴ Kartikeya Singh, India's Coal Tax Is Key to Stabilizing Its Energy Transition (Centre for Strategic and International Studies 2021) available at [India's Coal Tax Is Key to Stabilizing Its Energy Transition | Center for Strategic and International Studies \(csis.org\)](#) > accessed 29 April 2020.

²⁰⁴⁵M O Dioha and E C Dioha, 'Techno-economic feasibility of domestic solar water heating system in Nigeria. In 2018 International Conference on Power Energy, Environment, and Intelligent Control (PEEIC) 54-60

country.²⁰⁴⁶ Just a few rich individuals presently use rooftop PV systems in Nigeria because acquiring and installing them is expensive.²⁰⁴⁷ Creating incentives for the rooftop PV system will offer lower prices, and this may further discourage the use of diesel generating sets and at the same time increase the demand for RE. Incentives to encourage rooftop PV could be achieved by implementating the NREEEP. NREEEP encourages financial incentives for foreign investors such as ‘provision of capital grants, tax holidays and exemptions’ for renewable energy projects.²⁰⁴⁸ The Nigerian government claimed to have provided incentives for private manufacturers to produce transformers and control panels.²⁰⁴⁹ However, the incentive offered by the Nigerian government never makes rooftop PV cheap for Nigerians, as stated earlier, rooftop PV systems are only used by wealthier citizens in Nigeria. In this sense, there is a need to increase incentives for RE development in Nigeria so as to deploy rooftop PV systems across the country.²⁰⁵⁰ This research has already suggested ways of generating funds, such as the removal of subsidies, sanctions imposed on MOC for gas flaring, or donations from developed countries.²⁰⁵¹ These funds could be jointly managed by the RE development MDAs and overseen by the National House of Assembly for proper execution.²⁰⁵²

²⁰⁴⁶ The Indian government also conducted rooftop PV system see The Economic Times, Solar subsidies: Government subsidies and other incentives for installing rooftop solar system in India (The Economic Times 2019) available at

https://economictimes.indiatimes.com/small-biz/productline/power-generation/solar-subsidies-government-subsidies-and-other-incentives-for-installing-rooftop-solar-system-in-india/articleshow/69338706.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst > accessed 13th October 2020.

²⁰⁴⁷O Michael and Atul Kumar, ‘Rooftop solar PV for urban residential buildings of Nigeria: A preliminary attempt towards potential estimation’ (AIM Energy 2018) 710–734.

²⁰⁴⁸National Renewable Energy And Energy Efficiency Policy (NREEEP) Approved By FEC For The Electricity Sector 2015 Ministry of Power Federal Republic of Nigeria at page 4 <
<http://admin.theiguides.org/Media/Documents/NREEEP%20POLICY%202015-%20FEC%20APPROVED%20COPY.pdf> > accessed 12 January 2019.

²⁰⁴⁹See Nigeria Investment Promotion Commission, Investment Incentives, 2017 available at <https://nipc.gov.ng/> accessed 13th October 2020.

²⁰⁵⁰O Michael and Atul Kumar, ‘Rooftop solar PV for urban residential buildings of Nigeria: A preliminary attempt towards potential estimation’ (AIM Energy 2018) 710–734 at 729.

²⁰⁵¹ The UK prime Minister Theresa May in 2018 stated that Nigeria will be the first country to benefit from the Climate Finance Accelerator Programme see Daisy Dunne, The Carbon Brief Profile: Nigeria (Carbon Brief 2020) available at < [The Carbon Brief Profile: Nigeria](#) > accessed 13th May 2021.

²⁰⁵² See the joint implementation recommendation in section 8.2.2.

The MDAs need to concentrate on subsidising both the production and consumption of rooftop PV to allow citizens to get them at affordable prices. Though the Nigerian government might not have the technology for production, the government could create an enabling environment like capital grants, tax holidays provided in the NREEEP.

D) Support state government's involvement in renewable energy development: To have renewable energy expansion and achieve the NCCIOs in the coming years, the Nigerian government should encourage state²⁰⁵³ and local governments'²⁰⁵⁴ participation in renewable energy development in Nigeria. The 1999 Constitution of the Federal Republic of Nigeria provides for state governments participation in renewable energy development, especially off-grid renewable energy.²⁰⁵⁵ The federal government needs to collaborate with state and local governments. This could be made possible by using the existing structure of the SDGs, the office of the Senior Special Assistant to the President on SDGs, which implementation of SDG cut across the 36 states of the country. As already suggested, the office of Senior Special Assistant to the President on SDGs needs to collaborate with relevant energy developing MDAs to strategize how to implement the energy obligations. This collaboration should be extended to various state and local governments. This will make both state and local governments participate in the implementation of renewable energy. All the 36 states in Nigeria and the local governments receive federal allocations from the central government of Nigeria for projects on a monthly basis.²⁰⁵⁶ Understanding the need to drive renewable energy by the state governments will make them prioritise where to invest state allocations. However, the likely challenges of

²⁰⁵³ Nigeria operates a three-tier system of government that is, the central government, state governments and the local government. There are 36 states in Nigeria.

²⁰⁵⁴ There are 774 local governments within the 36 states in Nigeria.

²⁰⁵⁵ See PART II item 13, 14 and 15 of the Concurrent Legislative List of 1999 Constitution of Nigeria as Amended.

²⁰⁵⁶ National Bureau of Statistic, Federation Account Allocation Committee (FAAC) (FEBRUARY 2019 Disbursement) available at, [https://www.nigerianstat.gov.ng/pdfuploads/Federation_Account_Allocation_Committee_\(FAAC\)_FEB_2019_Disbursement.pdf](https://www.nigerianstat.gov.ng/pdfuploads/Federation_Account_Allocation_Committee_(FAAC)_FEB_2019_Disbursement.pdf) > Accessed 12 March 2020.

state governments developing renewable energy in Nigeria are Nigeria's current political structure, where all the states and local governments solely rely on the central government allocations.²⁰⁵⁷ State and local governments in Nigeria are unlike other federal systems such as South Africa (quasi-federal system), where municipal governments collect rent and taxes for renewable energy projects at the sub national level.²⁰⁵⁸ However, in Nigeria, state and local governments do very little in revenue generation because of central government allocation through the sale of crude oil.²⁰⁵⁹ Despite this shortcoming, the active involvement of state and local governments in renewable energy development will help the Nigerian government to make a significant success in the energy sector.

8.2.6 IMPROVEMENT OF THE FOREST AREAS AND REDUCTION OF EMISSIONS OF GHG

This research has shown that the AFOLU sector records the highest emissions of GHG in Nigeria.²⁰⁶⁰ The Nigerian government in the past has initiated several programmes and projects to improve forests and reduce emissions of GHG.²⁰⁶¹ The Forest Policy in 2006 specifically stated that the Nigerian government would increase the forest areas by 25%. After fourteen years since the forest policy was issued, 'Nigeria has lost more than 50% of its forest cover since 1990, and currently, less than 10% of the country is forested.'²⁰⁶² To increase the forest

²⁰⁵⁷ A Richard and I Okechukwu, 'Challenges of "Feeding Bottle Federalism" in Nigeria' 2016 (1) 2 Journal of Current Issues in Arts and Humanities 34-52; A Ajimobi, Review and Reform: Key Elements and Implications of Nigeria's Constitution Review Process (Chatham House 2012) at 4.

²⁰⁵⁸ J P Elsässer and F Stehle, The role of cities in South Africa's energy gridlock (2018) 2 91) Case Studies in the Environment, 1-7 at 2.

²⁰⁵⁹ A Richard and I Okechukwu, 'Challenges of "Feeding Bottle Federalism" in Nigeria' 2016 (1) 2 Journal of Current Issues in Arts and Humanities 34-52.

²⁰⁶⁰ See Chapter 6.

²⁰⁶¹ See chapter 6.

²⁰⁶² P Mfon and T A Akintoye, 'Challenges of Deforestation in Nigeria and the Millennium Development Goals. 2014 (9) 2 International Journal of Environment and Bioenergy, 76-94 at 78

areas and reduce emissions of GHG in the AFOLU sector, the Nigerian government should consider the following:

(a) Encourage Community Forest Management: Chapter 6 highlighted that community forest management practiced by the Ekuri community in Cross Rivers State (CRS) of Nigeria leads to 50% of the remaining forest standing in Nigeria.²⁰⁶³ This research argues that such a practice may be considered and extended to other parts of Nigeria. The community forest management practiced by the Ekuri community considers forests as an inheritance of their forefathers, and they must be sustained to promote livelihood, community development, and poverty reduction.²⁰⁶⁴ They believe that all the trees in the forest except those planted by individuals, are communally owned.²⁰⁶⁵ The community clearly designates farming zones, and the farming zones are fairly shared amongst the community.²⁰⁶⁶ The community also has set up initiatives to harvest timbers to meet the needs of the communities while discouraging individual logging practices. The Ekuri community forest management practice discourages deforestation as practice in other parts of Nigeria.²⁰⁶⁷ The success of Ekiru sustainable farming and forest management is said to have inspired the CRS Forest Commission to rewrite its strategy for the entire state.²⁰⁶⁸ This practice keeps 50% of the entire forest areas in CRS of Nigeria.

²⁰⁶³See Chapter 6.

²⁰⁶⁴World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigiera-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.

²⁰⁶⁵World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigiera-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.

²⁰⁶⁶World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigiera-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.

²⁰⁶⁷World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigiera-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.

²⁰⁶⁸World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigiera-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.

One example of similar community forest management can be seen in Bolivia. The Bolivian government acknowledges that the forest belongs to the community and cannot be sold.²⁰⁶⁹ The Bolivian government maintained 50.6 percent forest cover of the total land area²⁰⁷⁰ despite the fact that wood serves as the main source of energy, and 30 percent of her population lives in rural communities.²⁰⁷¹ The Bolivian government achieved this because the country pushed for sustainable forest management²⁰⁷²—this recognised forest management as both economic development and climate change action.²⁰⁷³ The government advocated for indigenous people’s right to land, and they have been allocating farmlands to mostly smallholders and ensuring that the remaining forests at any time should not be less than 50% of the total land area.²⁰⁷⁴ The plan is to ensure that the allocated lands are sustainably managed for different agricultural purposes and at the same time stabilise 50% of forest areas.

The point is that both the Ekiru community and Bolivia consider forests as an inheritance and it is communally owned, and that forest can be sustainably managed to promote livelihood as well its regrowth. This is the essence of Sustainable Forest Management²⁰⁷⁵ where forests are improved for both economic and social benefits as well as sequestering carbon from the global

²⁰⁶⁹ Plurinational State of Bolivia, Joint Mitigation and Adaptation Mechanism for the Comprehensive and Sustainable Management of Forest and the Mother Earth 2012.

²⁰⁷⁰ The State of The World’s Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 75 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.

²⁰⁷¹ Ibid 74 -82.

²⁰⁷² The country adopted a philosophy known as ‘The Rights of Mother Earth and the Paradigm of Living Well.’ This philosophy was incorporated into the national plan (Social and Economic Development Plan 2016-2020). See Earth Laws Asia Pacific, 3 days Conference 14-16 October 2020 available at <https://www.earthlaws.org.au/what-is-earth-jurisprudence/rights-of-nature/bolivia/#:~:text=The%20laws%20recognised%20that%20nature,have%20cellular%20structure%20modified%20or> > Accessed 15 October 2020.

²⁰⁷³ The State of The World’s Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 74 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.

²⁰⁷⁴ Ibid 74.

²⁰⁷⁵ Sustainable forest management (SFM) is defined as a “dynamic and evolving concept, which aims to maintain and enhance the economic, social and environmental values of all types of forests, for the benefit of present and future generations.” FAO. Sustainable forest management. <http://www.fao.org/forestry/sfm/en/>. [Accessed 3rd February 2020].

atmosphere.²⁰⁷⁶ This research contends that if the community forest management practice of Ekuri community in CRS that leads to the preservation of 50% forest area is adopted in all the 36 states of Nigeria, it is likely to improve the forest and reduce emissions in the AFOLU sector. This can be achieved by recognising such community forest management in the National Forest Policy 2006 that applies to the whole of the country. The Ministry of Environment responsible for the National Forest Policy 2006 could incorporate this community forest management into the National Forest Policy.

However, there are likely challenges to community forest management. On many occasions, community forest management discourages large-scale farming, especially if it involves cutting down trees.²⁰⁷⁷ Also, indigenous people who practice community forest management may likely reject forest management information that will help them if the information is unknown to them.²⁰⁷⁸ Aside from this, the Land Use Act of Nigeria may be seen as a threat to community ownership of land in Nigeria. The Land Use Act vests all lands to the Governors of each state.²⁰⁷⁹ By section 28 of the Land Use Act, the governor of a state can revoke any existing interest relating to land for public interest.²⁰⁸⁰ The implication is that Governors may abuse this provision if there is any pecuniary interest in any forest area. However, despite the Land Use Act, the Ekuri community thrives in community forest management and can be practiced in other parts of Nigeria.

(b) Recognising community forest in the REDD+ process: The REDD + readiness programme aims to incentivize developing countries to keep their forest standing. This is a recommendable

²⁰⁷⁶ WBCSD, Forest Sector SDG Roadmap available page 12 https://docs.wbcsd.org/2019/07/WBCSD_Forest_Sector_SDG_Roadmap.pdf > Accessed 12 March 2020.

²⁰⁷⁷ The State of The World's Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 77 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.

²⁰⁷⁸ The State of The World's Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 77 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.

²⁰⁷⁹ Section 1 of the Land Use Act -CAP.L4 L.F.N.2004.

²⁰⁸⁰Section 28 Land Use Act -CAP.L4 L.F.N.2004.

programme. As the REDD + readiness programme is about to be initiated in other parts of Nigeria, few lessons learnt from the pilot programme in CRS should guide the programme in the future. The programme needs to recognise community forest management practices. It should be noted that academics have already proposed that REDD+ programmes in Nigeria should recognise community forest management.²⁰⁸¹ This means that forest communities could be able to use the forest for livelihood, economic benefit, and sequestering carbon from the atmosphere. In this sense, CRS's placing of a total moratorium, which was reinforced by the REDD+ readiness programme, should be reviewed as the programme progresses to other parts of the country. As highlighted, the complete ban of indigenous people from accessing the forest resulted in undue hardships to the forest communities, and this is not in line with community forest management.

(c) Promote the existing afforestation initiatives: The two major programmes presently running in Nigeria to increase forest areas and reduce emissions of GHG from the forest are the Great Green Wall (GGW) and the Green Bond.²⁰⁸² The review of GGW in chapter seven unveils that it is not properly implemented. To effectively implement the GGW, the Federal government needs to release the 15% revenue from the Ecological Fund²⁰⁸³ to the GGW implementation agency. This will enable the agency to carry out its mandates and programmes effectively.

On the side of the green bond programme that supports afforestation, the amount budgeted for the green bond programme needs to be increased. Chapter 6 of the thesis also highlighted that the Nigeria green bond for the next seven years (2019-2025)²⁰⁸⁴ is just ₦15billion (\$49 million)

²⁰⁸¹A P Asiyambi, 'A political ecology of REDD+: property rights, militarised protectionism, and carbonised exclusion in Cross River (2016) 77 Elsevier in GeoForum 1-28 at 8.

²⁰⁸² See Chapter Six.

²⁰⁸³ Section 12 (1) (b) [National Agency for the Great Green Wall \(Establishment\) Act, 2015](#).

²⁰⁸⁴ Debt Management Office Nigeria available at < <https://www.dmo.gov.ng/fgn-bonds/green-bond> > Accessed 12 March 2020.

(£36 million).²⁰⁸⁵ This is far less than Indonesia's green bond (2018, \$2bn) (£1.5b), Belgium (2018, \$5.5bn) (£4.5b)²⁰⁸⁶ and many other countries. Considering the fact that Nigeria records one of the highest deforestation rates, this research suggests that there is a need to increase the green bond to support the AFOLU sector in improving the forest areas and at the same time reducing emissions of GHG.

(d) Identify AFOLU as one of the top priorities of CDM projects in Nigeria: Chapter 5 showed that most of the CDM projects in Nigeria are tailored towards the energy sector, especially gas flaring.²⁰⁸⁷ The AFOLU sector is given minimal attention. The Nigeria government in the past prioritized the energy sector for CDM projects. They did this by providing special incentives to gas phasing out projects.²⁰⁸⁸ Now that the AFOLU sector is highlighted by the Biennial Report as the highest sector that emits GHG,²⁰⁸⁹ the Nigerian government needs to prioritize this area for CMD projects. However, CDM projects relating to the AFOLU sector around the globe are few compared to energy.²⁰⁹⁰ Nevertheless, there are countries such as India, Bolivia, and many others where CDM projects contributed to reducing GHG emissions in the AFOLU sector.²⁰⁹¹ This research suggests that the Nigerian government could prioritise the AFOLU sector and attract CDM projects in the energy sector. Therefore, the Designated National Authority of

²⁰⁸⁵ Thomson Reuter Foundation News available at < <https://news.trust.org/item/20190527113641-a3su0> Accessed 12 March 2020.

²⁰⁸⁶ Climate Bonds Initiative, Green Bonds the State of The Market 2018, at 5 Available at < https://www.climatebonds.net/files/reports/cbi_gbm_final_032019_web.pdf > Accessed 2nd April 2020

²⁰⁸⁷ See Chapter five.

²⁰⁸⁸ The Nigerian Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurances) Act 1993, Section 1(1) of the Act grants the Nigerian Liquefied Natural Gas a pioneer status for the purpose of taxation—what this means is that section 1(4) gives a period of 10 years tax relief for the first commercial delivery of the gas for its purchasers. Sections 5 and 7 of the Act exempt the company and its contractors from import duties and value added tax in relation to any facilities imported for the development of the Nigerian Liquefied Natural Gas projects; the Associated Gas Framework Agreement (AGFA) 1992, The AGFA recognised tax holidays for a period of 3 years. That is, the utilisation of associated gas projects is subjected to tax holidays—for a period of 3 years.

²⁰⁸⁹ Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 8.

²⁰⁹⁰ P Smith and F Tubiello, Agriculture, Forestry and Other Land Use (AFOLU). In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change Minx (eds.]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. at 864.

²⁰⁹¹ UNFCCC CDM projects available at <https://cdm.unfccc.int/Projects/projsearch.html> > Accessed 10th October 2020.

Nigeria (DCC) should identify projects relating to AFOLU as one of the top priority areas. This may attract investors to invest in the AFOLU sector.

(e) Incentivize LPG to reduce fuelwood extraction: Chapter 6 of the thesis stated that Liquefied Petroleum Gas (LPG) is the cleanest fossil fuel²⁰⁹² As it produces fewer emissions of CO₂, and many researchers recommend the use of LPG in both rural and urban areas.²⁰⁹³ Although, critics of LPG argues that LPG is a fossil fuel and is therefore not renewable.²⁰⁹⁴ Since LPG is a fossil fuel, ‘the amount available is directly tied to the global amount of available oil and gas.’²⁰⁹⁵ Nevertheless, there is a consensus that the increased use of LPG is likely lead to less consumption of firewood, kerosene, sawdust, which cause deforestation, in house door pollution, and GHG emissions.²⁰⁹⁶ Note that there are several challenges for the increased use of LPG in Nigeria, such as the unaffordable prices of start-up packs of LPG, excessive VAT and import duties, and many more.²⁰⁹⁷ These myriads of challenges could be addressed if, in the short term, the Nigerian government considers incentivising LPG, which will enable consumers to get LPG at an affordable price. The Indonesian government used to have a similar problem like Nigeria, but in 2007, the Indonesian government incentivised LPG and initiated a cylinder programme.²⁰⁹⁸ The cylinder programme is targeted to introduce free of charge cylinders to household consumers and small and medium scale businesses. This programme

²⁰⁹² Discussed in chapter 6.

²⁰⁹³ M Antes and B Zotter, LP Gas: An Energy Solution for A Low Carbon World A Comparative Analysis Demonstrating The Greenhouse Gas Reduction Potential of LP Gas (world LP Gas Association) 6 Available < <https://www.wlpga.org/wp-content/uploads/2015/09/lpg-an-energy-solution-for-a-low-carbon-world.pdf> > Accessed 2nd December 2020; P E Agbonifo, ‘Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy Economics and Policy.442-448 at 446; E Johnson, ‘Substituting LP Gas for Wood: Carbon and Deforestation Impacts 2012 World LP Gas Association, Zurich pages 4-5.

²⁰⁹⁴ Sepp, S., 2014. Multiple-Household Fuel Use-a Balanced Choice Between Firewood, Charcoal and LPG (Liquefied Petroleum Gas). GIZ. At 37.

²⁰⁹⁵S Sepp, Multiple-Household Fuel Use-a Balanced Choice Between Firewood, Charcoal and LPG (Liquefied Petroleum Gas 2014) 37.

²⁰⁹⁶Discussed in Chapter 6 at 6.2.3.2 the use of Liquefied Petroleum Gas.

²⁰⁹⁷ Ibid.

²⁰⁹⁸ K Thoday and E Puzzolo, ‘The Mega Conversion Program from kerosene to LPG in Indonesia: Lessons learned and recommendations for future clean cooking energy expansion (2018) 46 Energy for Sustainable Development, 71-81

introduced over 56 million 3kg cylinders and withdrew about 3.26 billion litres of kerosene.²⁰⁹⁹

In the short term, the Nigerian government, especially the executive arm, may consider incentivising LPG. This will allow the rural communities to access affordable LPG as well as reducing the extraction of fuelwood and deforestation, which causes emissions of GHG in the forest sector.

8.3 NON-LEGAL REFORMS

The non-legal reforms are suggestions offered to citizens, intergovernmental and non-governmental organisations as well as government agencies in the aspect of collaboration and implementation of the NICCOs. The following non-legal reforms were highlighted and discussed in this segment. They include the need to support climate change education and awareness by the existing MDAs. The role of the NGOs and intergovernmental to sensitise Nigerians about climate change, and most importantly, the collaborative role between MDAs and the intergovernmental organisation to sensitize the citizens. Again, this segment discusses the role of Nigerian citizens and NGOs to hold the Nigerian government to account for NDC commitments it made under the Paris Agreement.

8.3.1 SUPPORT CLIMATE CHANGE EDUCATION AND AWARENESS PROGRAMMES

Article 6 of the UNFCCC²¹⁰⁰ places an obligation on national governments to promote climate change education at the national level. As already noted in Chapter 7, implementing Article 6 of the UNFCCC, educating the public on climate change will help citizens contribute to the fight against climate change. For instance, an informed society will reduce individual carbon emissions by making choices of the type of car to buy, reduce the rate of deforestation, knowing

²⁰⁹⁹ K Thoday and E Puzzolo, 'The Mega Conversion Program from kerosene to LPG in Indonesia: Lessons learned and recommendations for future clean cooking energy expansion (2018) 46 Energy for Sustainable Development, 71-81 at 75.

²¹⁰⁰ Article 10 (e) Kyoto Protocol and Article 12 Paris Agreement and SDG target 13:3).

what to do to adapt to the impacts of climate change. An informed citizen will reduce carbon emissions and hold the government to account for climate change commitments and targets made at the international level. Achieving Article 6 of the UNFCCC requires the effort of major climate change MDAs, NGOs, and other concerned actors. In this sense, the following MDAs and NGOs have a critical role to play in climate change education in Nigeria.

(a) The role of the MDAs in climate change education awareness: All MDAs that have direct or indirect roles in climate change education need to intensify effort to educate Nigerians about climate change. MDAs such as NEMA, the Hydrological Service Agency,²¹⁰¹ and the Meteorological Agency²¹⁰² have a critical role in climate change education, such as forecasting and warning of imminent climatic disasters. Giving accurate information and disseminating such information to the public will make citizens prepare for eventualities. Aside from these MDAs, the DCC, as the lead climate change department, should do more in climate change education, especially fulfilling the criteria of Article 6 of UNFCCC. Such criteria include: (1) the development and implementation of educational and public awareness programmes on climate change and its effects; (2) public access to information on climate change and its effects; (3) public participation in addressing climate change and its effects; and (4) training of scientific, technical, and managerial personnel.²¹⁰³

The assessment of DCC in Chapter 7 unveiled that the DCC has done so little to meet these criteria. The way forward is to employ all communication avenues, including print and mass media, to disseminate climate change information to Nigerians. This includes engaging local people and using language that is better understood by local communities to disseminate climate change information. The use of grass-root meetings and programme is essential for

²¹⁰¹ [Nigeria Hydrological Services Agency \(Establishment\) Act, 2010.](#)

²¹⁰² [Nigerian Meteorological Agency \(Establishment\) Act, NO. 9 2003.](#)

²¹⁰³ See article 6 UNFCCC.

local communities. Also, social media platforms such as Facebook, Twitter, LinkedIn, especially for the youth, may go a long way toward fulfilling criteria 1. Criteria 2 and 3 require the DCC to update its websites; make all climate change information available both online and offline for ease of access; involve Nigerians on climate change policy updates and reviews; seek their opinions and contributions to climate change issues in Nigeria. Criterion 4 is already provided above.²¹⁰⁴

Again, this research contends that the DCC should take a step further and collaborate with the Nigeria Ministry of Education, the United Nations Alliance of Climate Change²¹⁰⁵ and integrate climate change education into primary, secondary, and tertiary school curricula. The UNESCO has already developed measures of achieving SDG13, which is part of climate change education.²¹⁰⁶ UNSECO developed resources like climate change handbook-- song-filled cartoon for early childhood care and education, climate change starter's guidebook to support educators in primary school, and Action for Climate Empowerment (ACE) for secondary schools.²¹⁰⁷ The ACE intends to bring real solutions such as planting trees by schools to reduce GHG emissions.²¹⁰⁸ These resources are available online; the DCC and Ministry of Education could utilise these resources, amend or design new materials for teaching in every stratum of educational institutions in Nigeria. Chapter 7 of this thesis has shown that countries like Italy and the USA started integrating climate change education into the school curriculum.²¹⁰⁹

²¹⁰⁴ Training the personnel of DCC in climate change reporting See section 8.2.3.

²¹⁰⁵ The United Nations Alliance of Climate Change education comprises 13 members, including but not limited to FAO, UNEP, UNESCO, ILO, UNFCCC, UNICEF, the United Nations Institute for Training and Research (UNITAR), and the World Meteorological Organization (WMO). The Alliance aims to support members of the UNFCCC in their efforts to support climate change education and training. See United Nations Climate Change, United Nations Alliance of Climate Change: Education, training, and public awareness. Available at [United Nations Alliance of Climate Change: Education, training and public awareness | UNFCCC](#) > Accessed 15th September 2021.

²¹⁰⁶ See SDG targets 13: 3.

²¹⁰⁷ United Nations Educational, Scientific and Cultural Organization, SDG Resources for Educators - Climate Action < [SDG Resources for Educators - Climate Action \(unesco.org\)](#) > Accessed 15th September 2021.

²¹⁰⁸ Ibid.

²¹⁰⁹ See Chapter 7 section 7.2.3.2 Assessment of DCC's Role to Promote Climate Change Education and Awareness.

Therefore, in conjunction with the ministry of education, the DCC could do the same in Nigeria and this may lead to the fulfilment of Article 6 of UNFCCC.

However, it was argued that national governments give less attention to integrating climate change education into schools' curriculum. For instance, the African Ministerial Conference on the Environment (AMCEN)²¹¹⁰ resolution to the AU Assembly clearly urged various African national governments to make climate change part of their educational system.²¹¹¹ Member states were also urged to prioritise climate change in their school curricula and train teachers to teach climate change in schools.²¹¹² Academics have also made similar recommendations by urging the government to make climate change part of universities' curriculum²¹¹³ and using radio stations to create awareness.²¹¹⁴ Yet, climate change education and awareness in Nigeria are low. Amanchukwu postulates that inadequate teacher qualifications and facilities are key barriers to integrating climate change issues into educational curricula in Nigeria.²¹¹⁵ It underscores that state MDAs are more relaxed in climate change education; therefore, the NGOs can play a key role in climate change education.

(b) The role of non-state actors in climate change education in Nigeria: Non-state actors, including NGOs and intergovernmental organisations as knowledge brokers and

²¹¹⁰AMCEN is made up of African ministers of environment with the aim of halting environmental degradation in the African continent see History of the African Ministerial Conference on the Environment 1985 – 2005 , 1 < https://wedocs.unep.org/bitstream/handle/20.500.11822/8876/AMCEN_History.pdf?sequence=3&%3BisAlowed => accessed January 6, 2019.

²¹¹¹Paragraph 11 of Report of the Second Ministerial Conference on Disaster Risk Reduction Nairobi, Kenya, 14 - 16 April 2010 < https://www.unisdr.org/files/18733_englishreport.pdf > accessed January 6, 2019.

²¹¹²Paragraph 11 of Report of the Second Ministerial Conference on Disaster Risk Reduction Nairobi, Kenya, 14 - 16 April 2010 < https://www.unisdr.org/files/18733_englishreport.pdf > accessed January 6, 2019.

²¹¹³A Ayanlade and M Jegede, 'Climate change education and knowledge among Nigerian University graduates (2016) 8(4), Weather, Climate, and Society, 465-473 at 472; N Rose, 'Climate Change Education in Nigeria: The Role of Curriculum Review' (2016) 5(3) education 71-79; A Nebechi and O Okoro, 'The Teacher and the Teaching of Climate Change: A Case Study of Obio-Akpor Local Government Area of Rivers State Nigeria' (2016) 4 (1) Scientific Research Journal (SCIRJ) 30-35.

²¹¹⁴O Nwagbara and U C Okugo, 'The Role of Radio in Creating Awareness of Climate Change Among Crop Farmers in Abia State (2018) 14 (1) Nduñode at 234-249.

²¹¹⁵R N Amanchukwu and N P Ololube, 'A review of leadership theories, principles and styles and their relevance to educational management (2015) 5 (1) Management, 6-14.

intermediaries, have a huge role in climate change education at the national level.²¹¹⁶ All over the world, NGOs spread information on climate change more than the various national governments that emit GHG. Various NGOs such as Amnesty International, intergovernmental organisation, such as UNESCO, are presently involved in climate change education in Nigeria.²¹¹⁷ This research is aware that UNESCO offers to train 300 youths on agricultural practices as well as developing a curriculum for secondary school students in Nigeria.²¹¹⁸ There is no evidence on the ground that a curriculum has been developed. In this sense, more collaboration is needed among the DCC, UNESCO, stakeholders, and especially the education ministry of Nigeria to make this possible.

8.3.2 THE ROLE OF NON-STATE ACTORS AND CITIZENS IN CLIMATE CHANGE LITIGATION IN NIGERIA

Aside from climate change education, non-state actors and environmental lawyers, including citizens, must ensure the Nigerian government complies with the climate change obligations. Concern's citizens, NGOs can file an action in court and obtain court orders to compel the Nigerian government to fulfil its climate change commitments. Climate change litigation by citizens and NGOs are rising in other jurisdictions to make the national government comply with climate change commitments. In the UK, 11 citizens with Plan B—a charitable organisation with the mission to realise Paris Agreement, filed a lawsuit against the Secretary of State to review the 80% GHG emission reduction targets in 2050 contained in the Climate Change Act of the UK. This is due to emerging scientific data that countries need more

²¹¹⁶Lindsey Jones, the changing role of NGOs in supporting climate services BRACED 2016) at page 1 available at (<https://www.odi.org/sites/odi.org.uk/files/resource-documents/10885.pdf> > accessed 12th April 2021.

²¹¹⁷United Nations Educational, Scientific and Cultural Organization, Profile booklet Key Partners of the Global Action Programme on Education for Sustainable Development (2016 UNESCO) 95-96 available at < <https://sustainabledevelopment.un.org/content/documents/2412unesco.pdf> > Accessed 10th April 2020.

²¹¹⁸United Nations Educational, Scientific and Cultural Organization, Profile booklet Key Partners of the Global Action Programme on Education for Sustainable Development (2016 UNESCO) 95-96 available at < <https://sustainabledevelopment.un.org/content/documents/2412unesco.pdf> > Accessed 10th April 2020.

ambitious targets to meet Paris's 1.5 degrees Celsius goal.²¹¹⁹ This case was not successful in both the high and Appeal courts. However, the UK government has amended the Climate Change Act in 2019 and introduced 100% reduction of GHG emission targets by 2050. Similarly, in Netherlands, an environmental group known as Urgenda Foundation with 900 Dutch citizens brought an action against the government to reduce GHG emission. The Hague Court of Appeal held that the existing 17% pledged by the Dutch government is insufficient and ordered the government to limit GHG emissions by 25% below 1990 levels by 2020.²¹²⁰ This thesis recommends that NGOs and environmental lawyers request the Nigerian government to incorporate the Nigeria NDCs into the Climate Change Act. Furthermore, environmental activists, NGOs, and other concerned citizens of Nigeria must ensure the Nigerian government complies with the climate change commitments under the Paris Agreement. If the government fails to comply with its climate change obligations, the citizens have the right to file an action in court to compel the Nigerian government as citizens do in the UK and Netherlands.

Though, there are likely challenges of climate change litigation in Nigeria, especially the issue of 'locus standi.' The existing law vests an obligation on the Attorney -General of the Federation (AGF)²¹²¹ to bring an action in court against a polluter. Any other affected person must do so with the consent of the AGF,²¹²² which consent may not be given. In the past, the

²¹¹⁹ Plan B Earth and Others v. The Secretary of State for Business, Energy, and Industrial Strategy [2018] 16 EWHC 1892 (HL); Vince et al. v. Secretary of State for Business, Energy, and Industrial Strategy et al. [2020] 1832 (HC) pending.

²¹²⁰ Urgenda Foundation v. State of the Netherlands [2015] HAZA C/09/00456689; See also Leghari v. Federation of Pakistan (2015) W.P. No. 25501/201 where the appeal court of Pakistan ordered the government to implement the National Climate Change Policy of 2012 brought by a farmer (Leghar); Lawyers for Climate Action NZ Incorporated V The Climate Change Commission [2021] CIV 2021 In the High Court of New Zealand Wellington Registry.

²¹²¹ Section 12 (1-6) [Oil in Navigable Waters Act](#) - CAP. O6 L.F.N. 1968.

²¹²² Ibid.

Nigerian Courts relied on locus standi in *Busari Voseni*,²¹²³ *Shell Pet. Dev. Co. Ltd. Votoko*,²¹²⁴ *Douglas V Shell*,²¹²⁵ *Centre for Pollution Watch V Nigeria National Petroleum Corporation*²¹²⁶ where the Court of Appeal dismissed a suit filed by NGO on behalf of a community for an oil spill that pollutes the rivers and the lands.²¹²⁷

This thesis argues that the court may not dismiss environmental or climate change- related suits based on locus standi if the recommendation recognised in section 8.2.7²¹²⁸ is activated by the Nigerian Parliament. The Bill allows any person to bring an action in the Federal High Court of Nigeria against a private organisation or a person that willfully acted in a manner that will likely affect mitigation and adaptation measures of climate change.²¹²⁹ This will allow NGOs and any other interested person to bring action against the Nigerian government.

8.4 OVERARCHING CHALLENGES

The point must be made here that irrespective of the reforms discussed above, there are critical challenges that exist in Nigeria which may impact the reforms and suggestions offered by this research. Some of the critical challenges are corruption, bribery, Nigeria's economy, politics, poverty, crime, and many others. These factors are critical challenges in Nigeria that must be encountered by any MDAs, parliament, and executive government that is responsible for the implementation of climate change obligations in Nigeria.

²¹²³(1992) 4 NWLR (Pt. 237) 557.

²¹²⁴(1990) 6 NWLR (Pt.159) 693; see also *The Shell Petroleum Development Company Of Nigeria Limited V. Helleluja Fishermen Multi-Purpose Co-Operative Society Limited* (2001) Lpelr-5168(Ca); *Nigerian National Petroleum Corporation (Nnpc) & Anor V. Chief Stephen Orhiowasele& Ors* (2013) LPELR-20341(SC).

²¹²⁵ Unreported Suit No.FHC/L/CS/573/96.

²¹²⁶(2013) LPELR-20075(CA).

²¹²⁷ Ibid, 19.

²¹²⁸Section 8.2.7: The Parliament to update and pass the climate change bill into law.

²¹²⁹ Section 23 (2) (3) paragraphs (a)-(c).

8.4.1 CORRUPTION AND BRIBERY

Nigeria is rated by Transparency International as one of the most corrupt countries in the world.²¹³⁰ This report shows that corruption is endemic in every sector of the country. This research will not delve into a detailed discussion on corruption since corruption affects every sector of Nigeria.²¹³¹ However, the intention is to highlight how endemic corruption may affect the implementation of climate change obligations at the national level especially, climate change-related MDAs. For instance, the power sector is one of the sectors where several allegations of corruption are recorded.²¹³² In 2017, the Socio-Economic Rights and Accountability Project (SERAP) report found that Nigeria has spent N11 trillion (\$30 billion) (£23b) in the power sector since the country returned to democracy in 1999.²¹³³ Despite the fact that such a huge fund was spent on power generation, Nigeria is still experiencing intermitted power failures.²¹³⁴ The SERAP report concluded that there was a real scandal in bidding and awarding contracts and recommended that the Federal government of Nigeria investigate the power sector, that is, the Federal Ministry of Power (FMP), how the funds were spent.²¹³⁵ In 2019, the present government commented on the corruption in the power sector²¹³⁶

²¹³⁰Transparency International available at < <https://www.transparency.org/en/countries/nigeria> > accessed 12 August 2020.

²¹³¹ S Osoba, 'Corruption in Nigeria: historical perspectives' Review of African Political Economy, 1996 23(69), at 371-386; U Mohammed, 'Corruption in Nigeria: A challenge to sustainable development in the fourth republic. (2013) 9 (4) European Scientific Journal 118 – 137.

²¹³²[O Adanikin](#), 'Investigation: Jonathan, Buhari spent N1.164 trillion on power in 8 years, yet Nigeria remains in darkness' (2020 Premium Times) available at <https://www.premiumtimesng.com/investigationspecial-reports/357448-investigation-jonathan-buhari-spent-n1-164-trillion-on-power-in-8-years-yet-nigeria-remains-in-darkness.html> > Accessed 10th April 2020 ; D Ojerinde, How corruption crippled Nigeria's power sector –Report' (2019 punch Newspaper) available at < <https://punchng.com/how-corruption-crippled-nigerias-power-sector-report/> > Accessed 10th April 2020 ; Stakeholder Democracy Network, Electricity Sector Corruption Perception Index 2017: Promoting Accountability In Nigeria's Electricity Sector (2018) pages 4-5 available at < <http://www.stakeholderdemocracy.org/wp-content/uploads/2018/04/BEDC-corruption-index.pdf> > Accessed 10th April 2020 .

²¹³³Socio-Economic Rights and Accountability, From Darkness To Darkness (2017) at 3-5 available at <http://serap-nigeria.org/wp-content/uploads/2017/08/CORRUPTION-IN-ELECTRICITY-REPORT-A4.pdf> > Accessed 10th April 2020.

²¹³⁴ Ibid.

²¹³⁵ Ibid.

²¹³⁶ S Tukur, 'Buhari to Obasanjo: You have questions to answer over \$16bn power projects' (2020 Premium Times) < <https://www.premiumtimesng.com/news/headlines/269323-buhari-to-obasanjo-you-have-questions-to-answer-over-16bn-power-projects.html> > Accessed 10th April 2020.

and had indicated an interest in investigating corruption allegations.²¹³⁷ However, it is not clear if this investigation will be carried out. Aside from the FMP, several MDAs, such as the Nigeria National Petroleum Corporation was accused of embezzling 16-billion-dollar.²¹³⁸ The NDDC,²¹³⁹ the EFCC,²¹⁴⁰ and many others were also accused of stealing. Even the REDD + pilot programme in cross Rivers State, stakeholders expressed concern of financial misappropriation released by the United Nations for the programme.²¹⁴¹ Though, these concerns were not verified. The point is that corruption remains a major problem in Nigeria, and the MDAs that oversee the implementation of climate change obligations in Nigeria are not exempted.

8.4.2. POLITICS AND ECONOMY

Nigeria's economy is dependent on the production of crude oil and gas. Crude 'oil provides 80 percent of budget revenues and 95 percent of foreign exchange earnings' to the country.²¹⁴² This means that complete phasing out of flaring of associated gas could lead to a reduction of crude oil production on which the county solely relies.²¹⁴³ The implication is that stringent enforcement of regulation by the Nigerian government to end the flaring of associated gas

²¹³⁷The Nation Newspaper, 'EFCC begins probe of Obasanjo govt's \$16bn power project' (2019) available < <https://thenationonlineng.net/efcc-begins-probe-of-obasanjo-govts-16bn-power-project/> ; Accessed 10th April 2020.

²¹³⁸BBC News, Nigeria's NNPC 'failed to pay' \$16bn in oil revenues available at < <https://www.bbc.co.uk/news/world-africa-35810599> > Accessed 9th 2020.

²¹³⁹ CHANNELS tv Newa 'Corruption Scandal: NDDC Is A 'Cash Cow' For Politicians' available at < <https://www.channelstv.com/2020/08/04/corruption-scandal-nddc-is-a-cash-cow-for-politicians-wike/> > Accessed 22nd August 2020.

²¹⁴⁰ The Africa Report, Nigeria's EFCC boss suspended from office following secret tribunal > Available at <https://www.theafricareport.com/33943/nigerias-efcc-boss-suspended-from-office-following-secret-tribunal/> > Accessed 3rd September 2020.

²¹⁴¹ O Fadairo, Corruption and the imbalance in climate finance flows in Sub Sahara Africa: The case of cross river, Nigeria, and lessons for social science researchers (2018) 47 Tackling Sustainable Development in Africa and Asia: Perspectives from Next Generation Researchers, 11-12; O Fadairo and J Olawoye, 'A corruption risk assessment for reducing emissions from deforestation and forest degradation in Nigeria 2018 (10) 1 International Journal of Climate Change: Impacts and Responses at 16 and 17

²¹⁴²'Environmental Assessment of Ogoniland' (United Nation Environmental Programme 2011) 20.

²¹⁴³K Ifesinachi, and E Aniche, The Nigerian National Petroleum Corporation (NNPC) and Enforcement of Zero Gas Flaring Regime in Nigeria (2015) 4(1) ANSU Journal of Arts and Social Sciences 48-74, 14 -30.

which is one of the targets of the Nigeria NDC, is less expected.²¹⁴⁴ This plays out in the case of Mr. Jonah Gbemre V Shell Petroleum Development Company & others,²¹⁴⁵ where the applicant filed an action against the defendants claiming that the continuous flaring of gas in their community is a gross violation of their fundamental right to life, healthy environment enshrined in the 1999 Constitution.²¹⁴⁶ The court ordered the defendants (Shell Petroleum Development Company Nigeria Ltd) to stop further flaring in the applicants' community. The dramatic events that followed this judgement unveil the intention of the government. First, the judge was quickly transferred, the case file was reportedly disappeared for months. The Applicant Jonah Gbemre was intimidated by the Nigerian government, and he was also arrested.²¹⁴⁷ Orji argued that the Nigerian government deliberately did this to frustrate the enforcement of the court judgement.²¹⁴⁸ Worse still, when this judgment was to be enforced, Shell claimed that 'The only way to end flaring at flare sites without (Associated Gas Gathering) equipment would be to stop oil production. SPDC cannot make this decision without direct support from the Federal government. The Federal government immediately wrote a letter instructing Shell and other Oil companies to flare gas.'²¹⁴⁹ The question that arises is, will the Nigerian government enforce the gas phasing out laws discussed in chapter four which are in line with the aspect of Nigeria NDC that says Nigeria will stop flaring gas in 2030? It is debatable if the Nigerian government will genuinely implement any domestic law to fulfil climate change obligations if doing so means reducing its oil production.

²¹⁴⁴J U Orji, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) OPEC Energy Review 149-183, 154.

²¹⁴⁵ Federal High Court of Nigeria Benin Judicial Division Suit No: fhc/b/cs/53/05 (Judgment of 14 November 2005).

²¹⁴⁶ See section 35 of the 1999 Constitution.

²¹⁴⁷ Ibid.

²¹⁴⁸ Ibid.

²¹⁴⁹ Ibid.

8.4.3 POVERTY AND CRIME

Nigeria is one of the poorest countries in the world.²¹⁵⁰ The Human Development Index report ranked Nigeria in 158 positions out of 189 countries. This means life expectancy at birth is 54.3, and poverty is high.²¹⁵¹ A recent report states that more than 82 million of Nigeria's population lives behind the poverty line.²¹⁵² The number of people in poverty is more than the whole population of some countries, such as the UK, where the population is estimated at 66 million.²¹⁵³ Due to the rate of poverty, the crime rate in Nigeria has skyrocketed.²¹⁵⁴ The Nigerian government presently faces a different form of crime ranging from banditry, kidnapping, robbery, fraud, and many others.²¹⁵⁵ The majority of the crimes are attributed to the current state of poverty and unemployment.²¹⁵⁶ So, in reality, the Nigerian government is more concerned about fighting crime. This has reflected in the national budget, where security had the highest allocation in 2019.²¹⁵⁷ The implication is that the Nigerian government

²¹⁵⁰ 'Nigeria overtakes India as world's poverty capital — Report' (Vanguard Newspaper June 2018) available at <https://www.vanguardngr.com/2018/06/nigeria-overtakes-india-as-worlds-poverty-capital-report/Federal> > accessed 22nd June 2018; Ministry of Environment Nigeria (Great Green Wall for The Sahara And Sahel Initiative (2012) National Strategic Action Plan 16; Federal Ministry of Environment, Nigeria's Second National Communication Under The (United Nations Framework Convention on Climate change 2014) 20.

²¹⁵¹ The Human Development Index assesses countries on these three criteria, first standards of life, access to knowledge and a long and healthy life. See UNDP, Inequalities in Human Development in the 21st Century Briefing note for countries on the 2019 Human Development Report Nigeria. (UNDP 2019) at pages 2-3 available at http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/NGA.pdf > Accessed 10th September 2020.

²¹⁵² Aljazeera, Forty percent of Nigerians live below the poverty line: Report (Aljazeera News May 2020) available at < <https://www.aljazeera.com/news/2020/09/facing-normalisation-threat-palestinians-respond-unity-200914175752492.html> > accessed 12 August 2020.

²¹⁵³ Office for National Statistic United Kingdom available at < <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates> > Accessed 13 August 2020.

²¹⁵⁴ Overseas Security Advisory Council, Nigeria 2020 Crime & Safety Report: Lagos available at <https://www.osac.gov/Country/Nigeria/Content/Detail/Report/b4c7348c-8cd8-4e1b-bf01-188e5b7ee9b9> . Accessed 23rd August 2020.

²¹⁵⁵ Overseas Security Advisory Council, Nigeria 2020 Crime & Safety Report: Lagos available at <https://www.osac.gov/Country/Nigeria/Content/Detail/Report/b4c7348c-8cd8-4e1b-bf01-188e5b7ee9b9> . Accessed 23rd August 2020.

²¹⁵⁶ A Metu and O Maduka, 'Analysis of Crime Rate and Economic Growth in Nigeria: The Institutional Challenges and Way Forward (2018) 15 (1) Journal of Economic Studies, 39-50.

²¹⁵⁷ Defence, Security Dominates Nigeria's 2019 Budget with N1.03trn Allocation (Global sentinel News December 2018) available at <https://globalsentinelng.com/2018/12/20/defence-security-dominates-nigerias-2019-budget-with-n1-03trn-allocation/> > Accessed 15 August 2020.

prioritises security over climate change activities, which may affect the realisation of climate change obligations in the coming years.

8.4.4 COVID 19 ON THE NIGERIA ECONOMY

Nigeria's economy relies on crude oil production. What this means is that the price of crude oil in the international market affects the revenue of the Nigerian government. For instance, the oil shock between 2014-2015²¹⁵⁸ and Covid 19 in 2020 reduce the pump price of crude oil. On March 18, 2020, the crude oil price was as low as US\$29.6 per barrel as opposed to US\$100.8 in 2013.²¹⁵⁹ The point is that the rise of Covid 19 will further affect oil prices, and this may lead to a revenue decline of the Nigerian government in the future. The implication is that it will affect funding for the climate change obligations under the Paris Agreement.

8.5 CONCLUSION

This chapter first presented recommendations to improve the performance of the executive and legislative arms of the government and the existing MDAs. This first segment highlighted the need for the Nigerian government to align climate change obligations with similar key SDGs and the Nigeria NDC. The alignment could be perfected if the top MDAs could form alliance to implement key areas of climate change synergies such as the energy and the forest sectors. Again, this segment highlighted that binding laws do not back climate change targets recognised in the Nigerian energy and forest policies, including the Nigeria NDC. It was argued that incorporating the Nigeria NDC into the Climate Change Act will help agencies to focus and citizens to hold the government to account if the government fails to implement the

²¹⁵⁸ NIGERIA National Development Planning A Second Voluntary National Review (2022) available at [*26308VNR_2020_Nigeria_Report.pdf \(un.org\) > accessed 27th January 2022.](#) At page 12.

²¹⁵⁹ NIGERIA National Development Planning A Second Voluntary National Review (2022) available at [*26308VNR_2020_Nigeria_Report.pdf \(un.org\) > accessed 27th January 2022.](#) At page 13.

commitments contained in the Nigeria NDC. Furthermore, this research recognised that archiving the NCCIOs go beyond binding laws. It recommends the improvement of RE in Nigeria, particularly encouraging state, and local governments participation in RE penetration, removing harmful subsidies, ring-fence funds realised from penalties from gas flaring in RE development, and imposing a tax to discourage importation of diesel and petrol generating sets. One critical suggestion to reduce GHG emissions is the forest sector. This chapter highlights that community forest management needs to be practiced in the 36 states of the country because it was successful in CRS as well as Bolivia in reducing deforestation and emission of GHG. Aside from community forest management to reduce GHG emissions in the forest sector, another proposal for the short term is the use of incentives to make Liquefied Natural Gas available to reduce the extraction of fuelwood.

In the second segment, this chapter focuses on climate change education and awareness. In order to disseminate climate change education, it was recommended that both government and non-government actors such as MDAs, NGOs, and UNESCO have a role to play. These actors must use the mass and print media, social media platforms, including local meetings, to disseminate climate change information to Nigerians. Again, this segment further highlighted the role of the Nigerian citizens, especially the power of litigation to compel the Nigerian government to fulfil the climate change commitments and obligations it has signed and domesticated.

The third segment of this chapter emphasised that overarching challenges may likely hinder the realisation of the proposals and the reforms suggested. These challenges include but are not limited to poverty, unemployment, crime, which attracts much more attention of the Nigerian government than climate change obligations the Nigerian government signed and nationalised.

CHAPTER 9

CONCLUSION

This thesis aims to determine the answer to the primary research question, whether the legal mechanisms (laws, policies, and institutions) in Nigeria effectively respond to the consequences of climate change and achieve its climate change international obligations under the present climate change regime? This thesis has answered this question by examining the 7 objectives and subsidiary questions outlined in sections 1.5 and 1.6 of chapter one of this thesis. These objectives were critically analysed and evaluated in chapters 2-8 of this research. This chapter aims to summarise the entire research by showing how the aim and objectives of this thesis were achieved. This chapter presents chapter-by-chapter summaries and findings.

9.1 CHAPTER SUMMARIES AND FINDINGS

9.1.1 OBJECTIVE 1

The first objective was to assess the drivers and the consequences of climate change in Nigeria. This objective was achieved in chapter 2 of this thesis. Chapter 2 clearly highlighted 4 sectors that driver climate change in Nigeria. They include AFOLU, energy, waste, and Industrial Processes and Product. This chapter stressed that the AFOLU and energy sectors recorded highest emissions of GHG in Nigeria. This chapter also unveiled that the adverse impact of climate change has significantly impacted the environment and agricultural sector. Lake Chad that serves as a livelihood to millions of people in Nigeria and other neighbouring countries, is shrinking due to the rising temperature. Also, crop production is likely to be affected and this has affected the livelihood of the people. The disruption of agriculture due to the warming climate will likely threaten the realisation of SDGs that are targeted to reduce hunger and poverty in the country. This chapter concludes that AFOLU and energy are the significant

drivers of climate change in Nigeria, and Nigeria is vulnerable to the adverse impacts of climate. Therefore, the Nigerian government needs to take action to fight climate change at the national level.

9.2.2 OBJECTIVE 2

In order to know the climate change obligations, the second objective of this thesis focused on the climate change legal obligations imposed on the Nigerian government from the climate change instruments. This objective was achieved in chapter 3. This chapter critically assessed the international climate change instruments such as the UNFCCC, the Kyoto Protocol, the Paris Agreement, Nigeria NDC, and the SDGs. The assessment of the climate change instruments first highlighted fundamental principles of climate change such as the PPP, PP, CBDR, SD, and public participation that govern the climate change regime. More importantly, there are key climate change obligations arising from the climate change instruments that require every member to perform at the national level. These obligations include but are not limited to developing renewable energy, reducing emission in the forest sector and many others. The assessment in chapter 3 also revealed that the vital climate change obligations such as renewable energy development and improvement of forest areas are linked with key SDGs such as SDG 7 (Increase renewable energy) and 15 (Reduce emission in the forest sector) as well as the Nigeria NDCs which focuses on energy and the forest sectors. This chapter concludes that the relationship between the climate change obligations, the key SDGs, and the Nigeria NDC create an opportunity at the national level to achieve the top priority areas, that is energy and forest sectors which cut across the three main instruments (climate change instruments, SDGs, and the Nigeria NDC). This chapter also concludes that the Nigerian government has signed all the climate change agreements, adopted the SDGs, and it is bound to implement these obligations at the national level.

9.2.3 OBJECTIVE 3

To implement the climate change principles and the pivotal obligations arising from the climate change instruments, the third, fourth, fifth and sixth objectives focused on the effectiveness of the Nigerian legal mechanisms (the laws, policies, and institutions) to drive the principles and the key obligations at the national level. In this sense, the third objective specifically assessed the key existing Acts, regulations, and multisectoral policies formulated by both the Parliament and the Executive government of Nigeria. Whether do the laws and the multisectoral policies incorporate the climate change principles discussed in chapter 4? This third objective was attained in chapter 4 of this thesis. Chapter 4 showed key existing climate change-related legislation such as the Climate Change Act, the Associated Gas Reinjection Act 1979, Regulation 2018 and key multisectoral policies, the Nigeria Policy on Climate Change (NPCC), NV20:2020. The assessment showed that the Climate Change Act and the NPCC recognised SD and public participation principles while the Associated Gas Reinjection Act 1979, and Regulation 2018 incorporate the PP and PPP. However, both the Gas Reinjection Act 1979 enacted by the Parliament and the NPCC initiated by the Executive were in existence before the Paris Agreement and the Nigeria NDC 2015. Besides, the primary legislation, that is, the Associated Gas Reinjection Act 1979, and Regulation 2018, are targeted to reduce CO₂ emissions in the oil and gas industry while other sectors are left to emit CO₂. The NV20:2020 was not implemented, and it has expired. The NPCC was deliberately initiated to fight the adverse impacts of climate change in Nigeria, but it is not aligned with the key climate change targets areas of the Nigeria NDC.

9.2.4 OBJECTIVE 4

The fourth objective concentrated on the role of the Nigerian energy policies and programmes to address climate change in Nigeria. Do the energy policies incorporate the energy obligation and what is the role of the CDM project to reduce emissions in Nigeria? This objective was realised through chapter 5 of this thesis. Chapter 5 highlighted the relationship between RE obligation contained under the climate change instruments Article 4(1) (c) UNFCCC, Article 10 (1) (2) Paris Agreement, Article 2 (1) (i) Kyoto Protocol, SDG 7, and the Nigeria NDC renewable energy targets. It also highlighted key sectoral energy policies such as the NEP, NREEEP, BFP, REMP, and SEA4AL. This chapter stressed that all these policies were initiated before the Paris Agreement and the Nigeria NDC. Even though the policies were initiated before the Paris Agreement, they recognise the RE development obligation and they could be sued to implement the relationship between RE obligation contained under the climate change instruments Article 4(1) (c) UNFCCC, Article 10 (1) (2) Paris Agreement, Article 2 (1) (i) Kyoto Protocol, SDG 7, and the Nigeria NDC renewable energy targets.

This chapter further pointed out that MDAs issued the energy policies, and they were not implemented. Aside the policies, renewable energy programmes such as FIT, wind farm projects, biofuel programmes and many others the Nigerian government has embarked upon to integrate RE into the national grid were abandoned due to lack of funds and capacity. Again, state governments do not fully participate in RE development even though the government at the state levels receives monthly federal allocations. Coupled with these issues, the Nigeria fossil fuel subsidy programme is anti-RE development because the federal government spends more money on fossil fuel than RE development. Based on all these factors RE is not part of the on-grid connection in Nigeria except hydro.

Chapter 5 further assessed key CDM projects in Nigeria. The CDM projects have increased gas market in Nigeria and reduce the flaring of associated gas in Nigeria. However, the reduction of gas flaring does not reflect the overall reduction of GHG emissions Nigeria.

9.2.5 OBJECTIVE 5

The fifth objective addressed the role forest-related policies and programmes and the REDD+ programme play in reducing emission in Nigeria's forest sector. Whether the forest-related policies incorporate the forest obligations, and chapter 6 achieve this objective. This chapter unveiled the link between the forest obligations enshrined in climate change instruments such as Article 4(1) (c) UNFCCC, Article 5 (2) Paris Agreement, Article 2 (1) (a) (ii) Kyoto Protocol with SDG 15 as well as the Nigeria NDC forest related targets. Chapter 6 also identified key policies and laws to help the Nigerian government achieve the forest obligation. Key policies identified are the Forest Policy 2006, NREEEP, NEP, and NGP. All these policies were in existence before the Paris Agreement and the Nigeria NDC 2015. However, the NREEEP, NEP, NGP may help the Nigerian government reduce fuelwood use in Nigeria. The Forest Policy 2006 recognises the forest obligations, and it could be used to achieve the relationships between the three instruments. However, it has not been effectively implemented to improve the forest areas of Nigeria and reduce emissions in the forest sector.

Chapter 6 also revealed key forest programmes initiated by the Nigerian government. Most of the programme were abandoned for lack of fund except the green bond, GGW, and the REDD+ pilot international programme. These programmes are likely to assist the Nigerian government in improving the forest area and reduce GHG emissions in the forest sector. However, the amount of green bonds issued is small compared to the fast-depleting nature of Nigeria's forest. While the REDD+ readiness programme is still young it is yet to spread to every part of the country to improve the fast-depleting forest and reduce emission in the AFOLU sector.

9.2.6 OBJECTIVE 6

The sixth objective was to identify the current climate change-related institutions and their role in implementing climate change obligations, targets, and programmes in Nigeria. This

objective was achieved through chapter 7 of this research. This chapter highlighted important climate change-related institutions such as the Department of Climate Change (DCC), the Federal Ministry of Power, the Rural Electrification Agency, the office of senior special assistant to the president on SDGs. The assessment of these institutions unveiled that the DCC, as the leading department of climate change, has a key role to play in achieving Nigeria's climate change obligations. Such roles include climate change education and awareness, reporting climate change activities to the COP, accessing climate change funds, and ensuring collaboration among the existing climate change-related institutions to implement climate change obligations effectively. This chapter further unveiled that the DCC has not performed its role very well to achieve Nigeria's climate change obligations at the national level. The DCC is not among the entities that have direct access to climate change funds, and the consequence is that the amount of support the Nigerian government has received is far less than other developing countries that have direct access. The DCC performance of climate change education and awareness is ineffective. The indifferent attitude by Nigerian citizens to climate change issues, especially climate change litigation, is due to a lack of climate change awareness. Aside from this, the ineffectiveness of climate change education will affect the choices Nigerians will make, whether they should use generating sets or solar PV or other energy-efficient sources to reduce individual emissions of GHG emissions.

Chapter 7 further stressed that there is no concerted effort between the DCC and other MDAs, especially the senior special assistant's office to the President on SDGs, to collaborate and jointly implement climate change obligations even though the climate change obligations SDGs and the Nigeria NDC are interlinked.

9.2.7 OBJECTIVE 7

In order to provide solutions to the above issues, the seventh objective focused on the way forward. This objective was achieved in chapter 8 of this thesis. There were several suggestions provided in chapter 8 of this research. Among the key proposals are first, the Nigerian government needs to fully implement the existing policies such as the NREEEP and NEP to achieve the key obligations such as the development of RE and enhancement of forest that are interrelated in the three instruments (the climate change instruments, SDGs and the Nigeria NDC at the national level.) Implementing these obligations requires the Nigerian government's top climate change MDAs to collaborate by pooling resources together and focusing on the top priority areas of energy and forest sectors that record the highest GHG emissions. Second, to achieve RE development obligation, the Nigerian government needs to remove its harmful fossil fuel subsidy programme and use the funds in RE development; ringfence penalties realised from the MOC and invest in RE development; impose a tax on the importation of generating sets; and create incentives for rooftop PV to ramp up the usage of solar energy across the country. The Nigerian government also needs to allow state government to participate in RE development since the state government collects massive allocation from the federal government every month. Third, to achieve the forest obligation, the Nigerian government should include community forest management practices in CRS that reserve 50% of the forest in Nigeria in the 1999 Constitution to regenerate forest growth. Implement The REDD+ programme to allow indigenous people to access the forest since the REDD+ programme recognises SFM. The Nigerian government should increase funding for the GGW programme and raise the amount of the green bond programme. Again, in improving Nigeria forest and reduce emissions, the Nigerian government should encourage the use of LPG by providing incentives to allow citizens access LPG packages at low cost. Chapter 8 further provided that to hold the Nigerian government responsible, the Nigerian Parliament should

include the NDC pledge of 45% reduction of emission by 2030 and the targets into the Climate Change Bill and pass it to law. The DCC should implement and review the climate change policies from time to time to know implementation gaps and further action needed to achieve the climate change obligations. Finally, chapter 8 encourages NGOs and citizens to play their roles by sensitising Nigerians about climate change and holding the government responsible for climate change commitments it promised to deliver by 2030.

9.2 FINAL CONCLUDING COMMENT

The Nigerian government has some existing policies in both the energy sector (NREEEP, NEP, SE4ALL) and the forest sector (Forest Policy) that could help the Nigerian government to develop RE and improve afforestation that will reduce GHG emissions in both the forest and energy sectors. These policies somewhat reflect the climate change obligations as well as the key SDGs such as SDG 7, and 15. However, these policies were not precisely made to incorporate the climate change obligations as they were in existence before the Paris Agreement, SDGs, and the Nigeria NDC.

Nigerian president just signed the Climate Change Act of Nigeria in 2021. The key provisions in the Climate Change Act reflect environmental principles such as SD and public participation. However, the Climate Change Act does not incorporate specific targets of the Nigerian NDC. Also, the Climate Change Act is just four months old; it has not been implemented. This means it is too early to conclude that the Nigerian Climate Change Act will help the Nigerian government to achieve its climate change obligation in the future. Aside from the Climate Change Act, the few existing Act (the Associated Reinjection Act 1979) is targeted only to reduce gas flaring and venting, other sectors such as forest, waste are not covered by an Act of Parliament.

Again, there are clear linkages among the climate change obligations, key SDGs, and the Nigeria NDC. These linkages present an opportunity to collaborate between the Department of Climate Change, the Ministry of Agriculture, the Forest Department, and the Office of Senior Special Assistant to The President on SDGs to prioritise reforestation and climate-smart agriculture. However, the Nigerian government has not made use of the opportunities to achieve the climate change obligations at the national level.

Finally, the existing policies and Acts are not fully implemented to reduce emissions in the forest sector, neither are they implemented to increase RE development even though these laws and policies were in existence before the Paris Agreement. Most importantly, the existing institutions have not created synergy and focus on the key priority areas: the energy and the forest sectors, by putting effort and resources to implement targets in both the energy and forest sectors jointly.

BIBLIOGRAPHY

International climate change instruments

- Kyoto Protocol, (1997) Kyoto Protocol to the United Nations Framework Convention on Climate Change adopted at COP3 in Kyoto, Japan, on 11 December 1997.
- Montreal Protocol on Substances that Deplete the Ozone Layer (with annex). Concluded at Montreal on 16 September 1987 No. 26369.

- Paris Agreement, UN General Assembly, United Nations Framework Convention on Climate Change/ Adopted at the COP 21 in Paris, France, 12 December 2015 FCCC/CP/2015/L.9/Rev.1[accessed 19 November 2018].
- SDG, UN General Assembly, transforming our world: the 2030 Agenda for Sustainable Development, 21 October 2015, A/RES/70/1, available at: <http://www.refworld.org/docid/57b6e3e44.html> [accessed 19 November 2021].
- UN, Millennium Development Goals 2000.
- UNFCCC, UN General Assembly, United Nations Framework Convention on Climate Change: resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189, available at: <http://www.refworld.org/docid/3b00f2770.html> [accessed 1 July 2018].

UNGA resolutions and decisions on climate change

- Decision 1/CP.16 The Cancun Agreements UN General Assembly, United Nations Framework Convention on Climate Change: Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1.
- [Decision 15/CP.19](#) , United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 to 23 November 2013 FCCC/CP/2013/10/Add.
- Decision 2/CP.18, United Nations Framework Convention on Climate Change: Report of the Conference of the Parties on its eighteenth session, held in Doha from 26 November to 8 December 2012 FCCC/CP/2012/8/Add.
- Decision 1/CP 15, Draft implementing agreement under the Convention prepared by the Government of the United States of America for adoption at the fifteenth session of the Conference of the Parties. FCCC/CP/2009/11/Add.1 30 March 2010.

- Johannesburg Declaration on Sustainable Development, World Summit on Sustainable Development. (2003). Johannesburg Declaration on Sustainable Development and Plan of Implementation of the World Summit on Sustainable Development: the final text of agreements negotiated by governments at the World Summit on Sustainable Development, 26 August-4 September 2002, Johannesburg, South Africa. [New York], [United Nations Department of Public Information].
- The Rio Declaration on Environment and Development (1992).
- UN General Assembly, United Nations Framework Convention on Climate Change: Resolution adopted by the General Assembly on 17 December 2007, Resolution A/RES/62/98, available at: [A/RES/62/98 - E - A/RES/62/98 -Desktop \(undocs.org\)](#) [accessed 1 July 2020].
- United Nation Framework Conference on Climate Change, Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011 FCCC/CP/2011/9/Add.1 see Paragraph 14 < <https://unfccc.int/sites/default/files/resource/09a01.pdf> > Accessed 12 February 2020.
- United Nations Climate change, Copenhagen Climate Change Conference - December 2009, available at , [Copenhagen Climate Change Conference - December 2009 | UNFCCC](#). Accessed 2nd April.
- United Nations Climate Change, The Doha Amendment available at <[The Doha Amendment | UNFCCC](#) > accessed 7th March 2021.
- United Nations Framework Climate Change Conference, Report on progress made in, and the effectiveness of, the implementation of the amended New Delhi work programme on Article 6 of the Convention FCCC/SBI/2012/3 < <https://unfccc.int/sites/default/files/resource/docs/2012/sbi/eng/03.pdf> > Accessed 10th April 2020.

- United Nations Framework Convention on Climate Change, Report Of The Conference Of The Parties On Its Seventh Session, Held At Marrakesh From 29 October To 10 November 2001 FCCC/CP/2001/13/Add.1 at 11 and 12 < <https://unfccc.int/resource/docs/cop7/13a01.pdf> > Accessed 2nd March 2020 .
- United Nations Framework Convention on Climate Change, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010 FCCC/CP/2010/7/Add.1.

UK, EU, Canada, South Africa, Norway Climate change legislation

- Climate Change Act 2008 United Kingdom.
- Council Regulation (EC) 2018/2001 the promotion of the use of energy from renewable sources (Text with EEA relevance.) [2018] OJ L 328, 21.12.2018.
- Council Regulation (EC) 28/2009 the promotion of the use of energy from renewable sources [2009] OJ L 140 /5.6.
- Republic of South Africa National Energy Regulator Act 2004
- Republic of South Africa, Constitution of the Republic of South Africa. Pretoria: Government of South Africa;1996.
- The Carbon Tax Act of Republic of South Africa 2019.
- The Norway Climate Change Act 2018.

Nigeria climate change related Legislation

- Associated Gas Re-injection (Amendment) Bill, 2008.
- Associated Gas Re-injection Act of 1979.
- Climate Change Bill of Nigeria, 2017.
- Electric Power Sector Reform (EPSR) Act 2005.
- Environmental Impact Assessment Act - CAP. E12 L.F.N. 2004.

- Federal Government of Nigeria Pursuant to the Local Loans (Registered Stock and Securities) Act, CAP. L17, LFN 2004.
- Federal Ministry of Power and Steel, Renewable Electricity Action Program (REAP) December 2006 at 6.
- Federal Ministry of Power and Steel, Renewable Electricity Policy Guidelines December 2006,
- Flare Gas (Prevention of Waste and Pollution) Regulation 2018.
- National Agency for the Great Green Wall (Establishment) Act, 2015.
- National Domestic Gas Supply and Pricing Regulation 2007.
- National Environmental (Base Metals, Iron and Steel Manufacturing/Recycling Industries Sector) Regulations, 2011.
- National Environmental Protection (Effluent Limitation) Regulations 1991.
- Nigeria 1999 Constitution 1999 as Amended.
- Nigeria Hydrological Services Agency (Establishment) Act, 2010.
- Nigerian Electricity Regulatory Commission Regulations on Feed-In Tariff for Renewable Energy Sourced Electricity in Nigeria 2015.
- Nigerian Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurances) Act 1993.
- Nigerian Meteorological Agency (Establishment) Act, NO. 9 2003.
- Nigerian Urban and Regional Planning Act Cap N138, 2004.
- Oil in Navigable Waters Act - CAP. O6 L.F.N. 1968.
- Petroleum (Drilling and Production) Regulation of 1969
- The Associated Gas Re-Injection (Amendment) Regulations (1990).
- The Associated Gas Re-injection (Continued Flaring of Gas) Regulation SI 43 of 1984, CapA25LFN2004.

- The Associated Gas Re-Injection Act - CAP. A25 L.F.N, 2004.
- The Energy Commission Act 1979
- The Land Use Act -CAP.L4 L.F.N.2004.
- The Minerals and Mining Act LFN 2007.
- The National Environmental (Sanitation and Wastes Control) Regulations, 2009.
- The National Gas Supply and Pricing Regulation 2008.
- The Nigerian Liquefied Natural Gas (Fiscal Incentives Guarantees and Assurances) Act 1993.
- The Petroleum Act - CAP. P10 L.F.N. 2004.
- The Petroleum Industry Administration Bill 2018.
- The Petroleum Industry Bill 2012.
- The Price Control Act of Nigeria 1977.
- Urban and Regional Planning (Decree No. 88, 1992).

Canada, Costa Rica, UK, South Africa, climate change policies

- A Federal Sustainable Development Strategy for Canada 2019 to 2022.
- Costa Rica Electricity Generation Expansion Plan 2016-2035 (Plan de Expansion de la Generacion Electrica) 2017.
- The city of Cape Town. City of Cape Town Energy and Climate Change Strategy. Cape Town: City of Cape Town; 2006.
- UK Renewable Energy Roadmap 2011.
- UK Renewable Energy Roadmap Update 2013.

Nigeria National climate change policies

- Agricultural Transformation Agenda Support Program – Phase 1 (ATASP-1), Nigerian Federal Ministry of Agriculture and Rural Development 2013).
- Approved National Forest Policy, Federal Ministry of Environment (ABUJA 2006).

- Federal Ministry of Agriculture and Rural Development, National Agricultural Resilience Framework 2015.
- Federal Republic of Nigeria, Sustainable Energy for All Action Agenda (SE4ALL-A) (2016).
- Flood Control and Coastal Zone Management 2005
- National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) (2011).
- National Biodiversity Strategy and Action Plan 2015.
- National Energy Policy [Draft Revised Edition (Energy Commission of Nigeria 2018).
- National Policy on Drought and Desertification 2007
- National Renewable Energy and Energy Efficiency Policy (NREEEP) Approved by FEC For the Electricity Sector 2015.
- Nigeria Gas Master Plan (NGMP) 2008.
- Nigeria National Energy Policy (Energy Commission of Nigeria 2003).
- Nigeria National Gas Policy' (2017).
- Nigeria Vision 20:2020' (Federal Ministry of Budget and National Planning 2009).
- Nigerian Bio-fuel Policy and Incentives (2005). >
- Renewable Energy Master Plan Final Draft Report (2005).
- The Agriculture Promotion Policy (2016 – 2020).
- The National Policy on Climate Change (2012).

Case Laws

- Douglas V Shell Unreported Suit No.FHC/L/CS/573/96.
- Lawyers for Climate Action NZ Incorporated V The Climate Change Commission [2021] CIV 2021 In the High Court of New Zealand Wellington Registry.

- Leghari v. Federation of Pakistan (2015) W.P. No. 25501/201
- Massachusetts V Environmental Protection Agency (EPA) 127 S.Ct. 1438 (2007) 549 U.S. 497
- Nigerian National Petroleum Corporation (Nnpc) & Anor V. Chief Stephen Orhiowasele& Ors (2013) LPELR-20341(SC).
- Plan B Earth and Others v. The Secretary of State for Business, Energy, and Industrial Strategy [2018] 16 EWHC 1892 (HL).
- Savannah Bank Ltd v. Ajilo (1987)1 NWLR (pt. 413).
- Shell v Gbemre Federal High Court of Nigeria Benin Judicial Division Suit No: fhc/b/cs/53/05 (Judgment of 14 November 2005).
- The Shell Petroleum Development Company of Nigeria Limited V. Helleluja Fishermen Multi-Purpose Co-Operative Society Limited (2001) Lpelr-5168(Ca)
- Urgenda Foundation v. State of the Netherlands [2015] HAZA C/09/00456689
- Vince et al. v. Secretary of State for Business, Energy, and Industrial Strategy et al. [2020] 1832 (HC) pending.

Books

- Akhakpe I B, 'Climate Change and Sustainable Development in Nigeria. Handbook of Research on Environmental Policies for Emergency Management and Public Safety (2018) 209.
- Alam S, 'Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 11 – 12.
- Antwi-Agyei P and Stringer C, Identifying Opportunities for Coherence between the Intended Nationally Determined Contributions, and the Sustainable Development Goals: The Case of ECOWAS Member States (Sustainability Research Institute School of Earth and Environment 2017) 5.
- Atsegbua L A and Dimowo F, Environmental law in Nigeria: Theory and practice (Ababa Press 2004).

- Atsegbua L A, Nigerian Petroleum Law: The Acquisition of Oil Rights in Nigeria. (Renstine Nigeria Publishers 1993).
- Baer P, Equity, Greenhouse Gas Emissions, and Global Common Resources in SH Schneider et al (eds) Climate Change Policy, A Survey (2002) 393 394.
- Baker S, 'In pursuit of sustainable development: a governance perspective' In 8th international conference of the European society for ecological economics (ESEE), Ljubljana (2009) at 10.
- Banakar R and Travers M, Theory and method in socio-legal research (Bloomsbury Publishing 2005).
- Barrett & Stavins S 'Increasing Participation and Compliance in International Climate Change Agreements' (2002) Working Paper 9-13.
- Blanco E and Razzaque J, Globalisation and natural resources law: challenges, key issues, and perspectives (Edward Elgar Publishing 2011) 93.
- Blen A, Encyclopedia of the environment. (Houghton: Mifflin Co 1994).
- Brand K W and Jochum G, The German discourse on sustainable development (MPS texts 2000) 1.
- Brink P and Oosterhuis F, 'The way forward: reforming EHS in the transition to a green economy. In Paying the Polluter (Edward Elgar Publishing 2014).
- Brink P and Oosterhuis F, The way forward: reforming EHS in the transition to a green economy. In Paying the Polluter (Edward Elgar Publishing 2014).
- Buzco-Guven B and Harriss R, 'Gas flaring and venting: extent, impacts, and remedies' 2010 Energy Forum 1-72.
- Cervigni R and Henrion M, Low-Carbon Development: Opportunities for Nigeria (eds., 2013 The World Bank) 88-89.

- Chasek P and Zartman W, Six Ways to Make Climate Negotiations More Effective (Policy Brief Fixing Climate Governance Series 2015) at 1.
- Churchill R and Freestone D, International law and global climate change (ed 1991) 21.
- Coenen F, Public participation and better environmental decisions. The promise and limits of participatory processes for the quality of environmentally related decision-making (Springer 2009) 1.
- Colombo E, Renewable energy for unleashing sustainable development. United Kingdom (Springer 2013).
- Cullet P, 'Common but differentiated responsibilities' 2010 Research Handbook on International Environmental Law, 161.
- Dioha M O and Dioha E C, 'Techno-economic feasibility of domestic solar water heating system in Nigeria. In 2018 International Conference on Power Energy, Environment, and Intelligent Control (PEEIC) 54-60.
- Donnelly A, A Directory of Impact Assessment Guidelines, (2nd edn., London, International Institute for Environment and Development 1998).
- Drake L, International law and the renewable energy sector (The Oxford Handbook of International Climate Change Law 2016) 357.
- Environmental Assessment of Ogoniland' (United Nation Environmental Programme 2011) 36.
- Esrin D and Kennedy H, International Bar Association Climate Change Justice and Human Rights Task Force 2014. Achieving Justice and Human Rights in an Era of Climate Disruption. International Bar Association, 44.
- Etienne R and McPhail K, Capturing economic and social value from hydrocarbon gas flaring and venting: solutions and actions 2021 (6) WIDER Working paper at 1.

- Fee E, ‘Implementing the Paris Climate Agreement: Risks and Opportunities for Sustainable Land Use. In H Ginzky and E Dooley (eds), International Yearbook of Soil Law and Policy (Spring 2018) 249-270.
- Frynas J G, Oil in Nigeria: conflict and litigation between oil companies and village communities (No. 1). LIT Verlag Münster 2000).
- Garrett J and Moarif S, Reporting on capacity-building and technology support under the Paris Agreement: Issues and options for guidance (2018) Organisation for Economic Co-operation and Development at 11.
- Graziano da Silva J, Global Forest Resources Assessment 2015 How are the world’s forests changing? (2nd edn, Food and Agriculture Organization of the United Nations 2016) 30-3.
- Holloway V and Giandomenico E, Carbon Planet White Paper: The History of REDD Policy (2009) 5.
- Hyde W F, Limitations of Sustainable Forest Management: An Economics Perspective. In S Kant (eds) Institutions, Sustainability, and Natural Resources Sustainability, Economics, and Natural Resources (. Springer, Dordrecht 2005) 193-210.
- Ikoni U D, an introduction to Nigerian Environmental Law (Malthouse Law Books Press Limited 2010).
- Jane Ellis and Sara Moarif, Identifying and Addressing Gaps in the UNFCCC Reporting Framework (2015 OECD) 11-14.
- Johnson E, ‘Substituting LP Gas for Wood: Carbon and Deforestation Impacts 2012 World LP Gas Association, Zurich pages 4-5.
- Karlsson G, Handbook for Conducting Technology Needs Assessment for Climate Change (UNFCCC 2009) at 5.

- Klein D, *The Paris Agreement on Climate Change: Analysis and Commentary* (ed 2017 Oxford University Press).
- Krämer L and Orlando E, *Principles of Environmental law* (edn, Edward Elgar Publishing 2018) 1-10.
- L Kurukulasuriya and Robinson N A, *UNEP Training Manual on International Environmental Law* (United Nations Environment Programme 2006) at 25.
- L Paxton L, *Enviro Facts 3: Sustainable development* (Environmental Education Association of Southern Africa 1993).
- Ladan M, *Environmental Law in Nigeria* (Ahmadu Bello University, Nigeria 2007) .
- Ley K and Ghatikar A, ‘The Nigerian Energy Sector: An Overview with a Special Emphasis on Renewable Energy, Energy Efficiency and Rural Electrification’ 2015 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, Nigerian Energy Support Programme (NESP) 96.
- Luterbacher U and D Sprinz D, *International relations and global climate change* (ed 2001 MIT Press).
- Malumfashi G I, ‘Phase-out of gas flaring in Nigeria by 2008: The prospects of a multi-win project. Centre for Energy Petroleum and Mineral Law and Policy (CEPMLP) (2007) University of Dundee, Scotland, United Kingdom 31- 33.
- Martín-García J and Diez J J, ‘Sustainable Forest Management: An Introduction and Overview (2012) Sustainable Forest Management-Current Research 4.
- McCulloch N and Yang J, *Fuel subsidy reform and the social contract in Nigeria: A micro-economic analysis* (WORKING Paper ICTD 2020) 3.
- McCulloch N and Yang J, *Fuel subsidy reform and the social contract in Nigeria: A micro-economic analysis* (WORKING Paper ICTD 2020) 3.
- Meadows H, *The Limits to Growth* (1972) (Yale University Press, 2013) 101-116.

- Merrill L and Gerasimchuk I, Making the Switch From fossil fuel subsidies to sustainable energy (Nomadic Council of Ministry 2017) at 65-67.
- Michael O and Atul Kumar, 'Rooftop solar PV for urban residential buildings of Nigeria: A preliminary attempt towards potential estimation' (AIM Energy 2018) 710–734.
- Müller B, Pocket Guide to Capacity Building for Climate Change (ed 2018 ecbi) 7.
- Nachmany M and Townshend T, Climate Change Legislation in Nigeria an Excerpt from the Global Climate Legislation Study A Review of Climate Change Legislation in 66 Countries (Fourth Edition 2014) 423.
- Nachmany M, climate change legislation in Norway an excerpt from the 2015 Global Climate Legislation Study A Review of Climate Change Legislation in 99 Countries (The Global Legislators Organization 2015) 2-13.
- Northrop E and Song R, 'Examining the alignment between the intended nationally determined contributions and sustainable development goals (2016) World Resources Institute at 9.
- Obergassel W and Asche F, 'Shaping the Paris mechanisms part III: an update on submissions on Article 6 of the Paris Agreement (2018) Jiko Policy Paper IV.
- Occhiali and Falchetta G, 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM Milano 7.
- Occhiali G and Falchetta G, 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM) Milano at 8.

- Occhiali G and Falchetta G, 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM Milano).
- Occhiali G and Falchetta G, 'The Changing Role of Natural Gas in Nigeria: A policy outlook for energy security and sustainable development, Working Paper, No. 010.2018, (2018) Fondazione Eni Enrico Mattei (FEEM Milano at 6.
- Onuoha C M, 'Climate change and sustainable development in Nigeria: The mitigating role of green wall Sahara Nigeria programme' in Enugu Forum Policy Paper 10 (eds) Implications of Climate Change for Economic Growth and Sustainable Development in Nigeria (Enugu Forum Policy Paper 10 2011) 33.
- Orlando E, Principles, Standards and Voluntary Commitments in International Environmental Law (2nd edn,) In Routledge Handbook of International Environmental Law (Routledge 2020) 15-29.
- Ottinger R, UNEP Guide for Energy Efficiency and Renewable Energy Laws (2016) at 39.
- P Omontuemhen and McGraw, Nigeria's Refining Revolution (PWC 2017) 1-16.
- Pereira H, 'How the WTO can help tackle climate change through fossil fuel subsidy reform (2018) International Centre for trade and sustainable development at 24.
- Pring G and Noé S Y, 'The Emerging International Law of Public Participation Affecting Global Mining, Energy, and Resource Development' in D M Zillman (eds) Human Rights in Natural Resource Development: Public Participation in the Sustainable Development of Mining and Energy Resources, (Oxford University Press 2002) at 76.
- Puig D and Alverson K, The Adaptation Finance Gap Report; United Nations Environment Programme: Nairobi, Kenya, 2016.

- R Cervigni and M Henrion, Low-Carbon Development: Opportunities for Nigeria (eds., 2013 The World Bank) 77.
- Rachel E, The concept of sustainable development: definition and defining principles (2015) 2 GSDR 3.
- Ram B and Engineer C, 'Renewable energy development in Africa-challenges, opportunities, way forward (2006) South Africa Regional Office, African Development Bank at 17 and 18.
- Rametsteiner E, SFM indicators as tools in political and economic context: actual and potential role (eds), Criteria and indicators for sustainable forest management. (The International Union of Forestry Research Organizations Research Series, 2011) 107-130.
- Ross A, Sustainable Development Law in the UK: From Rhetoric to Reality? (edn,Routledge 2013).
- Rostow W W, The world economy; history and prospect (FAO 1978).
- Sands P and Peel J, Principles of international environmental law. (Cambridge University Press 2012).
- Scott J, Implementing the 2030 Agenda in Mexico (CONEVAL, 2018).
- Scott R, The History of the International Energy Agency, 1974-1994: IEA, the First 20 Years (OECD/IEA).
- Shelagh W, Whitley and Laurie van der Burg, Fossil fuel subsidy reform in sub-Saharan Africa: from rhetoric to reality (Working Paper Washington DC 2015).
- Silas A, 'Public participation in environmental impact assessment (EIA) reports: The Nigerian Experience (2013) In International Association for Impact Assessment (IAIA) 2013 Conference Proceedings at 1-5.

- Steiner A, *The Financial System We Need: Aligning the Financial System with Sustainable Development*. Nairobi (United Nations Environment Programme 2015) at 7.
- Stevance A and McCollum D, 'A guide to SDG interactions: from science to implementation (2017) International Council for Science, Paris.
- Stokke O, *Implementing the climate regime: international compliance* (2013 Routledge).
- Taibi F and Konrad S, *Pocket Guide to NDCs under the UNFCCC* (ecbi 2018) 1.
- Tirpak D and Ronquillo-Ballesteros A, *Monitoring climate finance in developing countries: challenges and next steps* (2014) World Resources Institute. Washington, DC 1.
- Toman M A, 'The Difficulty in Defining Sustainability' in J Darmstadter (ed) *Global Development and the Environment, Perspectives on Sustainability* (1992) 15 16-17.
- Ukpohor E T, *Nigerian gas master plan: strengthening the Nigeria Gas Infrastructure Blueprint as a base for expanding the regional gas market*. (2009) In *World Gas Conference Technical Paper*, 11.
- UNEP, *putting Rio principle 10 into action An Implementation Guide* (UNEP 2015).
- Usman A K, *Environmental protection law and practice* (Malthouse Press 2017)171-193.
- Vandeweerd V, *The Bali Road Map: Key issues under negotiation* (2008 UNDP Environment & Energy group) 30.
- Woerdman E, 'Emissions Trading and the Polluter-Pays Principle: Do Polluters Pay Under Grandfathering?' (2008) 14 *Rotterdam Institute of Law and Economics Working Paper Series* 11.

- Woolley O, 'Developing Countries Under the International Climate Change Regime: How Does the Paris Agreement Change Their Position? In Ethiopian Yearbook of International Law 2016) 179-200.
- Yamin and Depledge J, The international climate change regime: a guide to rules, institutions and procedures. (2004 Cambridge University Press).
- Zinyowera R T and Moss R H, The regional impacts of climate change: an assessment of vulnerability (eds Cambridge University Press 1998) 88-87

Journal Articles.

- A O Ekpu, 'Environmental impact of oil on water: a comparative overview of the law and policy in the United States and Nigeria' 1995 (24)1 Denv. J. Int'l L. & Pol'y, 55-180; 80.
- Abraham T W and Fonta W M, 'Climate change and financing adaptation by farmers in northern Nigeria (2018) 4 (1) Financial Innovation, 1.
- Adejonwo-Osho O, 'Nigeria's commitments under the climate change Paris Agreement: legislative and regulatory imperatives towards ensuring sustainable development' 2019 Environment Africa 61-82.
- Adeoluwa R O, 'Appraisal of the operationalisation of national environmental regulations in Nigeria under the national environmental standards and regulations enforcement agency' 2008 (9) 2 Nnamdi Azikiwe University Journal of International Law and Jurisprudence 199-215.
- Adeoluwa R O, 'Assessment of Legal Frameworks on Environment and Climate Change Enforceable in Nigeria by The National Environmental Institution 2019 1(3) International Review of Law and Jurisprudence (IRLJ) 81-90.
- Agbonifo P E, 'Natural gas distribution infrastructure and the quest for environmental sustainability in the Niger Delta: The prospect of natural gas utilization in Nigeria (2016) 6(3) International Journal of Energy Economics and Policy.442-448 at 446.

- Agbonifo P, 'The Pursuit of Climate Protection and The Uneven Global Distribution of Clean Development Mechanism (CDM) Projects: Lesson from Least Developed Countries (LDCS) (2017) 6 (1) European Journal of Sustainable Development, 139-139 at 149.
- Aghalino S O, 'The Olusegun Obasanjo administration and the Niger Delta question, 1999-2007, 2009 7(1) Studies of Tribes and Tribals 57-66 at 60.
- Ahmad B and Wood C, A comparative evaluation of the EIA systems in Egypt, Turkey and Tunisia. Environmental impact assessment review (2002) 22(3) Elsevier 213-234.
- Aigbovo O and Ogboka E, 'Electric Power Sector Reform Act 2005 and the Development of Renewable Energy in Nigeria (2016) Renewable Energy L. & Pol'y Rev., 7, p.20.
- Ajayi O O, 'Nigeria's energy policy: Inferences, analysis and legal ethics toward RE development. (2013) Energy Policy. 61-67 at 62.
- Ajimobi A, Review and Reform: Key Elements and Implications of Nigeria's Constitution Review Process (Chatham House 2012) at 4.
- Ajugwo A O, 'Negative effects of gas flaring: The Nigerian experience (2013) 1(1) Journal of Environment Pollution and Human Health, 291 -301, 292-293.
- Akamabe U B and Kpae G, 'A critique on Nigeria national policy on environment: Reasons for policy review (2017) 3 (3) IIARD International Journal of Geography and Environmental Management, 22-36 at 32.
- Akanle O and Adetayo O, 'Fuel subsidy in Nigeria: contexts of governance and social protest. International Journal of Sociology and Social Policy (2014) 34 (1) International Journal of Sociology and Social Policy 88-106 at 104.

- Ako R T, 'Nigeria's Land Use Act: An Anti-Thesis to Environmental Justice' (2009)53 (2) 289-304 at 294.
- Akpodiogaga P and Ovuyovwiroye O, 'General overview of climate change impacts in Nigeria' (2010) 29(1) Journal of Human Ecology 47-55.
- Alam S, 'Carbon Pricing to contribute to Greenhouse Gas mitigation efforts of Bangladesh: Design features and Rationale, 2019 Ecologic Institute at 8.
- Albrecht J, 'Climate policy convergence in Europe: an assessment based on National Communications to the UNFCCC (2005)12 (5) Journal of European Public Policy, 885-902.
- Aldy J and Stavins R, 'The promise and problems of pricing carbon: Theory and experience (2012) 21 (2) The Journal of Environment & Development, 152-180.
- Alexander S, 'How Does the Meaning of Climate-Smart Agriculture Differ Among Stakeholders (2019) 7. (1) Future of Food: Journal on Food, Agriculture and Society .21-30 at 24.
- Ali A and Iqbal S, 'Deforestation and its impacts on climate change an overview of Pakistan (2014) 21 Papers on Global Change IGBP51-60 at 51.
- Aliyu A S and Usman M M, Biofuel development in Nigeria: Prospect and challenges (2017) 36 (1) Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 1-9 at 5-6.
- Aliyu A S and Usman M M,' Biofuel development in Nigeria: Prospect and challenges (2017) 36 (1) Journal of Advanced Research in Fluid Mechanics and Thermal Sciences, 36.1-9.
- Aliyu S A and Adam I K, 'Current status and prospects of renewable energy in Nigeria (2015) 48 Renewable and sustainable energy reviews, 336-346 at 339-349.

- Alobi A and Ifebueme N M, 'Perception of Forest Stakeholders on Logging Ban in Cross River State, Nigeria 2020 (5) 2 Asian Journal of Research in Agriculture and Forestry, 1-15 at 8.
- Aluko O, 'Functionality of the town planning authorities in effecting Urban and Regional Planning laws and control in Nigeria: The Case of Lagos State (2011) 5 (6) African Research Review, 156-171.
- Amanchukwu R N and Ololube N P, 'A review of leadership theories, principles and styles and their relevance to educational management (2015) 5 (1) Management, 6-14.
- Amasuomo E and Baird J, 'Solid waste management trends in Nigeria (2016) 6(4) J. Mgmt. & Sustainability 6-35, 39.
- Amobi D, and Onyishi T, 'Governance and climate change in Nigeria A public policy perspective (2015) 9(2) Journal of Policy and Development Studies 199-209.
- Andersson K P and Wong G Y, 'Wealth and the distribution of benefits from tropical forests: Implications for REDD+. (2018) 72 Land use policy, 510-522 at 510.
- Anh Tu C and Rasoulinezhad E, 'Factors Influencing the Green Bond Market Expansion: Evidence from a Multi-Dimensional Analysis (2020) 13(6) Journal of Risk and Financial Management, 126.
- Aniche E T, 'Nigeria and World Bank Global Gas Flaring Reduction (GGFR) Partnership: The Tragedy of the Commons (2015) researchgate.net 4.
- Aniche E T, Nigeria and World Bank Global Gas Flaring Reduction (GGFR) Partnership: The Tragedy of the Commons (2015).
- Anomohanran O, 'Determination of greenhouse gas emission resulting from gas flaring activities in Nigeria (2012) 45 Energy Policy 666-670.

- Anslem Ajugwo O, 'Negative effects of gas flaring: The Nigerian experience (2013) 1 (6) Journal of Environment Pollution and Human Health 1, no. 1 (2013): 6-8 at 8.
- Apata T G and Adeola A O, 'Analysis of climate change perception and adaptation among arable food crop farmers in South Western Nigeria. In International Association of Agricultural Economists' (2009) Conference, Beijing, China 16-22.
- Asaju K and Akume A, 'Vision 20: 2020: Realities and Challenges (2012) 10 (2) Jorind 275-281, 275.
- Asiyanbi A and Isyaku U, 'REDD+ in West Africa: politics of design and implementation in Ghana and Nigeria 2017(8)3 Forests 1-24 at 11-13.
- Asiyanbi A P, 'A political ecology of REDD+: property rights, militarised protectionism, and carbonised exclusion in Cross River (2016) 4.
- at 73; Federal Republic of Nigeria (2018) First Biennial Update Report (BUR1) of the Federal Republic of Nigeria under the United Nations Framework Convention on Climate Change (UNFCCC) 6.
- Attabo A A and Oyedepo S O, 'September. Wind energy generation from Nigeria continental shelf: A review. In IOP Conference Series: Earth and Environmental Science 2019 (331)1 IOP Publishing at 1-16.
- Awoniyi S and Amos TT, 'A Review of REDD+ Effectiveness at Ensuring Rural Community Resilience to Climate Change and Food Security in Nigeria (2016) 6 (1) Nigerian Journal of Agricultural Economics, 53-64 AT 60.
- Ayanlade A and Jegede M, 'Climate change education and knowledge among Nigerian University graduates (2016) 8(4), Weather, Climate, and Society, 465-473 at 472.
- Bäckstrand K and Lövbrand K, 'Non-state actors in global climate governance: from Copenhagen to Paris and beyond' 2017 (26) 4 Environmental Politics at 563-565.

- Balogun B O, 'Effects of biofuel production on selected local Communities in Nigeria (2016) 7(3), Journal of Petroleum Technology and Alternative Fuels,18-30. At 28.
- Banga J, 'The green bond market: a potential source of climate finance for developing countries (2019) 9 Journal of Sustainable Finance & Investment 25-27; I Shishlov and I Cochran, 'Beyond transparency: unlocking the full potential of green bonds (Institute for Climate Economics 2016) 1-28.
- Banisar D and Excell C, 'moving from principles to rights: Rio 2012 and access to information, public participation, and justice (2011) 12 Sustainable Dev. L. & Pol'y, 8.
- Baranzini A and Padilla E, 'Seven reasons to use carbon pricing in climate policy (2016) The Centre for Climate Change Economics and Policy (CCCEP) 2-14.
- Baranzini A and Roca J, 'Carbon pricing in climate policy: seven reasons, complementary instruments, and political economy considerations. Wiley Interdisciplinary Reviews: 2017 (8) 4 Climate Change, 8(4) Pages 8-7.
- Barbier E B and Burgess J C, 'The Sustainable Development Goals and the systems approach to sustainability. Economics: The Open-Access, Open-Assessment E-Journal, (2017) 11(28), 1-23; 6.
- Barral V, 'Sustainable Development in International Law (2012) (23)2 The European Journal of International Law, 377-400.
- Bayrakand M M and Marafa L M, 'Ten years of REDD+: A critical review of the impact of REDD+ on forest-dependent communities (2016) 8 (7) Sustainability, 1-22 at 5-6.
- Bekhoven J, 'Public Participation as a General Principle in International Environmental Law: Its Current Status and Real Impact (2016) 11 NTU L. Rev.219.

- Beymer-Farris B A and T J Bassett, ‘The REDD menace: Resurgent protectionism in Tanzania's mangrove forests (2012) 22(2) Global Environmental Change, 332-341.
- Bhartendu A, ‘Deforestation causing global warming and climate change (2012) 10 (3) International Journal of Chemical Sciences 1731-1734 at 1732.
- Bisong A O, ‘The Effects of Natural Gas Flaring on Climate Change in Nigeria’ (2014) In SPE Nigeria Annual International Conference and Exhibition Society of Petroleum Engineers 5-7.
- Blanc D Le, ‘Towards integration at last? The sustainable development goals as a network of targets’ (2015) 23(3) Sustainable Development 176-187.
- Bodansky D and Rajamani L, ‘The Evolution and Governance Architecture of the Climate Change Regime’ (2013) (2) SSRN 5-8; D Klein and A Higham, The Paris Agreement on climate change: Analysis and commentary (Oxford University Press 2017) 2-11.
- Bodansky D, ‘The Paris climate change agreement: a new hope? American Journal of International Law, (2016) 110(2), pp.288-319. David Roberts, “The Conceptual Breakthrough Behind the Paris Climate Treaty,” vox.com (Dec. 15, 2015).
- Borchard E, Treaties and Executive Agreements--A Reply (1994) 54 Yale LJ, 1994) 616.
- Bortscheller M, ‘Equitable but ineffective: How the principle of common but differentiated responsibilities hobbles the global fight against climate change (2009) 10 Sustainable Dev. L. & Pol'y 49-68, 53.
- Boswell A, ‘Strengthening the Precautionary Principle in the Post-Paris Climate Regime. Environment (2017) 59(5) Science and Policy for Sustainable Development, 26-37.

- Bottazzi P and Rist S, Assessing sustainable forest management under REDD+: A community-based labour perspective (2013) 93 *Ecological economics*, 94-103.
- Bouyé, M and Schulz N S, Connecting the dots: Elements for a joined-up implementation of the 2030 Agenda and Paris Agreement. (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2018) 16.
- Bowen A, 'Raising climate finance to support developing country action: some economic considerations (2011) 11 (3) *Climate policy*.1020-1036.
- Boyle J, Cultural influences on implementing environmental impact assessment: insights from Thailand, Indonesia, and Malaysia. *Environmental Impact Assessment Review*, (1998) 18(2 95-116.
- Bradbrook A J, 'Creating law for next generation energy technologies' (2011) 2 *George Washington Journal of Energy & Environmental Law* 17 at 35.
- Broto V C and Bulkeley H, 'A survey of urban climate change experiments in 100 cities (2013) 23 91) *Global environmental change*, 92-102 at 92.
- Buen J, CDM Criticisms: Don't Throw the Baby out with the Bathwater (2013) 8 *FridtjofNansen Institute Climate Policy Perspectives*, 3 and 4.
- Bulkeley H, and Mol A, 'Participation and Environmental Governance: Consensus, Ambivalence and Debate' (2003) 12 (2) *Environmental Values* 143–54.
- Büyüközkan G, A novel renewable energy selection model for United Nations' sustainable development goals (2018) 165 *Energy* 290-302.
- Buzco-Guven B and Harriss R, 'Gas flaring and venting: extent, impacts, and remedies' 2010 *Energy Forum* 1-72; 10.
- C Napoli C, 'Understanding Kyoto's failure' (2012) 32 (2) *SAIS Review of International Affairs*, 183-196 at 192.

- Cabello J and Gilbertson T, ‘A colonial mechanism to enclose lands: A critical review of two REDD+-focused special issues’ (2012) 12 (1/2) *Ephemera: Theory & Politics in Organization*, 162-180 at 176.
- Cameron J and Abouchar J ‘The precautionary principle: a fundamental principle of law and policy for the protection of the global environment’ 1991(4) 1. *BC Int'l & Comp. L. Rev* 1-26 at 1- 2.
- Caney S, ‘Climate change and the duties of the advantaged. Critical review of international social and political philosophy, 2010 13(1) *Democracy, Equality, and Justice*, 203-228.
- Cavanagh C J and Trædal T J, ‘Securitizing REDD+? Problematizing the emerging illegal timber trade and forest carbon interface in East Africa.’ (2015) 60 *Elsevier Ltd* 72-82 at 74.
- Cervigni R and Santini M. eds., 2013. *Toward climate-resilient development in Nigeria* (World Bank Publications 2013) 49-55.
- Charles A, ‘How is 100% renewable energy possible for Nigeria. (2014) *Global Energy Network Institute (GENI), California*. 17.
- Chaturvedi I, *The Carbon Tax Package: An Appraisal of Its Efficiency in India's Clean Energy Future*. (2016) *CCLR*, p.194 at 200.
- Cléménçon R, ‘The two sides of the Paris climate agreement: Dismal failure or historic breakthrough? 2016 25(1) *Journal of Environment & Development* 3–24.
- Connor D O and Ford J, ‘Increasing the effectiveness of the “Great Green Wall” as an adaptation to the effects of climate change and desertification in the Sahel 2014 (6) 10 *Sustainability*, 7142-7154 at 7143.
- Criqui P and Sterner T, ‘Carbon taxation: a tale of three countries (2019) 11 (22) *Sustainability*, 11(22), 2-21.

- Daly A, and Archbold C, 'Energy Democracy, Renewables and the Paris Agreement. In Intellectual Property and Clean Energy 2018 Springer, Singapore 427-447.
- Dawson N M and Schroeder H, 'Barriers to equity in REDD+: Deficiencies in national interpretation processes constrain adaptation to context (2018) 88 Environmental science & policy,1-9.
- Dernbach J C, achieving sustainable development: The Centrality and multiple facets of integrated decision making (2003) 10 Indiana Journal of Global Legal Studies.
- Dodman D, 'Blaming cities for climate change? An analysis of urban greenhouse gas emissions inventories. (2009) 21 91 Environment and urbanization, 185-201 at 185.
- Dong K and and Dong X, 'CO2 emissions, natural gas and renewables, economic growth: assessing the evidence from China (2018) Science of the Total Environment, 640,293-302 at 294.
- Dong K and Hochman G, 'Do natural gas and renewable energy consumption lead to less CO2 emission? Empirical evidence from a panel of BRICS countries 2017 Energy, 141,.1466-1478 at 1466 – 1468.
- Doshi D and Garschagen M, 'Understanding Adaptation Finance Allocation: Which Factors Enable or Constrain Vulnerable Countries to Access Funding?' 2020 (12) 10 Sustainability, 2-18.
- Du Plessis A, 'Public Participation, Good Environmental Governance and Fulfillment of Environmental Rights' (2008) 11(2) Potchefstroom Electronic Law Journal 170-201.
- Duru N P and Emetumah C F, 'Evaluating the Effects of Information Literacy on Climate Change Awareness among Students in Imo State University (2016) 4(3) Archives of Current Research International, 1-10 at 3.

- Ebhota W S And Tabakov P Y, 'Power Inadequacy, the Thorn in Economic Growth of Nigeria.' 2018 13916) International Journal of Applied Engineering Research12602-12610 at 12602.
- Eckersley R, 'Moving forward in the climate negotiations: Multilateralism or minilateralism? (2012) 12 (2) Global environmental politics, 24-42.
- Edino M O and Bombom L S, Perceptions and attitudes towards gas flaring in the Niger Delta,Nigeria (2010) 30(1) The Environmentalist 67-75.
- Edu K, 'A review of the existing legal regime on exploitation of oil and the protection of the environment in Nigeria' (2011)37 (2) Commonwealth Law Bulletin, 307-327, 308.
- Efe S I and Weli V E, 'Economic impact of climate change in Port Harcourt, Nigeria' (2015) 3(03) Open Journal of Social Sciences 57.
- Ekardt F, and Wieding J 'Paris Agreement, precautionary principle and human rights: Zero emissions in two decades? (2018) 10(8), Sustainability, at 9-10.
- Ekpoh U and Ekpoh J, 'Assessing the level of climate change awareness among secondary school teachers in Calabar municipality, Nigeria: implication for management effectiveness (2011) 1(3), International Journal of Humanities and Social Science,106-110 at 106.
- Ekpu A O, 'Environmental impact of oil on water: a comparative overview of the law and policy in the United States and Nigeria' 1995 (24)1 Denv. J. Int'l L. & Pol'y, 55-180; 80.
- Elsässer J P and Stehle F, The role of cities in South Africa's energy gridlock (2018) 2 (1) Case Studies in the Environment, 1-7 at 2.

- Elum Z A and Mjimba V, ‘Potential and challenges of renewable energy development in promoting a green economy in Nigeria (2020) 12 (2) Africa Review,172-191 at 181.
- Elum Z A and Momodu A S, ‘Climate change mitigation and renewable energy for sustainable development in Nigeria: A discourse approach (2017) 76 Renewable and Sustainable Energy Reviews, 72-80 at 75.
- Elvidge C and Zhizhin M, A fifteen-year record of global natural gas flaring derived from satellite data (2009) 2(3) Energies 595-622.
- Emejuru C T and Izzi M M, ‘Climate Change and the Law: Cushioning the Effects of Climate Change-In Niger Delta’ (2015) 15(1) Global Journal of Human-Social Science Research.
- Etiosa U, ‘The Changing Climate and the Niger Delta’ (2016) Community Research and Development Centre (CREDC), Nigeria.
- Eze E, ‘Sociographic analysis of climate change awareness and pro-environmental behaviour of secondary school teachers and students in Nsukka Local Government Area of Enugu State, Nigeria’ (2020) 29(1) International Research in Geographical and Environmental Education, 89-105.
- Ezebilo E and Mattsson L, ‘Contribution of Non-timber Forest Products to Livelihoods of Communities in Southeast Nigeria (2010) 17 (3) International Journal of Sustainable Development & World Ecology 231–235
- Fadairo O and Olawoye J, ‘A corruption risk assessment for reducing emissions from deforestation and forest degradation in Nigeria 2018 (10) 1 International Journal of Climate Change: Impacts and Responses at 16 and 17.

- Fadairo O and Olawoye J, ‘A corruption risk assessment for reducing emissions from deforestation and forest degradation in Nigeria 2018 (10) 1 International Journal of Climate Change: Impacts and Responses at 16 and 17.
- Fadairo O, Corruption and the imbalance in climate finance flows in Sub Sahara Africa: The case of cross river, Nigeria, and lessons for social science researchers (2018) 47 Tackling Sustainable Development in Africa and Asia: Perspectives from Next Generation Researchers,.11-12.
- Fagbohun O, The Law of Oil Pollution and Environmental Restoration (Odade Publishers, Lagos, 2010).
- Fahad M, ‘Carbon Tax on Fuels: India’s New Initiative 2021 (12) 7 Turkish Journal of Computer and Mathematics Education 1229-1233 at 1229.
- Faleyimu O I and Agbeja B O, ‘Constraints to forest policy implementation in the Southwest Nigeria: Causes, consequences and cure (2012) 2 (2) Resources and Environment 37-44 at 41-42.
- Falkner R, ‘The Paris Agreement and the new logic of international climate politics. International Affairs (2016) 92(5) 1107-1125.
- Farber D A, ‘Coping with uncertainty: cost-benefit analysis, the precautionary principle, and climate change. 2015 (12) 1 Wash. L. Rev., 90,1659-1726 at 1672.
- Favretto N and Quinn C H, ‘Links between climate change mitigation, adaptation and development in land policy and ecosystem restoration projects: Lessons from South Africa (2018) 10 (3) Sustainability, 779.
- Fonta M and van Huysen T, ‘Africa and the Green Climate Fund: current challenges and future opportunities (2018) 18(9) Climate policy 1210-1225 at 1211.
- Forsbacka K, Climate Finance and the Point of Green Bonds (Doctoral dissertation, Luleå University of Technology 2021) 7.

- Foster K R and Repacholi M H, ‘Science and the precautionary principle. Science’ (2000) 288(5468) Social Science Premium Collection pp.979-981.
- Foster K R and Repacholi M H, ‘Science and the precautionary principle. Science’ (2000) 288(5468) Social Science Premium Collection pp.979-981.
- Getu M, ‘Accommodating the Interests of Developing Countries in the Climate Change Regime: Lessons from the Ozone Layer Regime’ (2012) 6(1) Mizan Law Review 1 13.
- Grunbaum L, ‘From Kyoto to Paris: How Bottom-Up Regulation Could Revitalize the UNFCCC (2015) Stanford Environmental Law Journal (SELJ).
- H D Matthews H D, ‘Quantifying historical carbon and climate debts among nations (2016) 6(1) Nature climate change 60.
- Hakeem I, ‘Public Participation in Environmental Impact Assessment In Nigeria: Prospects And Problems (2015) 13 Nigerian Juridical Review at 83. See section 3.3.6 Public Participation.
- Hamilton S E and Friess D A, ‘Global carbon stocks and potential emissions due to mangrove deforestation from 2000 to 2012’ 2018 8(3) Nature Climate Change,240-244 at 242.
- Hanekamp J C and Bergkamp L, ‘The Best Available Science and the Paris Agreement on Climate Change. (2016) 7 Eur. J. Risk Reg. 42. at 48.
- Harris, ‘The development of socio-legal studies in the United Kingdom’ (1983) (3) 3 Legal Studies 315, 315. 51.
- Heinzerling L ‘Climate Change, Human Health, and the Post-Cautionary Principle’ (2008) 96 The Georgetown Law Journal 445 452.

- Henry B, ‘Gas Production and Utilization in Nigeria: A Long-Term Perspective’ (2019) 6 (5) international journal of engineering technology management Research 58-72 at 63.
- Hermwille L and Beuermann C, ‘UNFCCC before and after Paris–what's necessary for an effective climate regime?’. *Climate Policy* 2017 17(2), 150-170.
- Heymann E, Carbon tax Better than the status quo, but not the optimal solution (2019) Deutsche Bank Research 1-4.
- Hickey J E & Walker V R, ‘Refining the precautionary principle in international environmental law’ (1995) 14 *Virginia Environmental Law Journal* 423 425.
- Hickmann T and Stehle F, ‘The embeddedness of urban climate politics in multilevel governance: A case study of South Africa’s major cities (2019) 28 (1) *The Journal of Environment & Development*, 54-77 at 57.
- Hoegh-Guldberg, O, and John F, ‘The impact of climate change on the world’s marine ecosystems’ (2010) 328 (5985) *Science* 1523-1528.
- Hovi J and Sprinz D, ‘Why the United States did not become a party to the Kyoto Protocol: German, Norwegian, and US perspectives’ 2012 18(1) *European Journal of International Relations* 129-150.
- Ibitoye F I, ‘Ending Natural Gas Flaring in Nigeria's Oil Fields (2014) 7 (3) *Journal of Sustainable Development*, 7(3) 13.-22 at 14.
- Ibrahim K M and Muhammad S I, ‘A review of afforestation efforts in Nigeria (2015) 4(12) *International Journal of Advanced Research in Engineering and Applied Sciences*,24-37. 34.
- Idris W O and Albani A, ‘The Status of the Development of Wind Energy in Nigeria. 2020 13(23), *Energies* 6219.

- Ifesinachi K and Aniche E, 'The Nigerian National Petroleum Corporation (NNPC) and Enforcement of Zero Gas Flaring Regime in Nigeria (2015) 4(1), ANSU Journal of Arts and Social Sciences 13-14.
- Ikehi M E and Zimoghen J, 'Impacts of climate change on fishing and fish farming in Niger Delta Region of Nigeria' (2015) 3 (1) Direct Res. J. Agric. Food Sci,1-6.
- Inegbenebor A O, and Onyisi O, 'Nigeria Vision 20: 2020; Review of Current Status Using Re Development and Gross Domestic (2018) IOP at 8.
- Ishisone M, 'Gas flaring in the Niger Delta: The potential benefits of its reduction on the local economy and environment' (2004) Retrieved on December 10, 13.
- Iyer G and Kyle P, 'The contribution of Paris to limit global warming to 2 C' 2015 10(12) Environmental Research Letters 1 -10.
- Izoukumor N A, 'A Critical Assessment of the Pollution Prevention Laws and Regulations of Nigeria: Why They Failed to Protect the Environment of Nigeria' (2019) 87 Journal of Law, Policy and Globalization 43-53, 44.
- J Sathay and Shmakin A, Renewable energy in the context of sustainable development (2011) ecommons.
- Jimoh S O and Abi E A, 'Community Based Forest Management as a Tool for Sustainable Forest Management in Cross River State, Nigeria (2013) Journal of Agricultural Research and Development at 71.
- Johnson E, 'Substituting LP Gas for Wood: Carbon and Deforestation Impacts 2012 World LP Gas Association, Zurich pages 4-5.
- Jotzo F, 'Developing countries and the future of the Kyoto Protocol' (2004) Economics and Environment Network, Working Paper, EEN0406.
- K C Onuoha, 'What are the Prospects and Challenges of Biofuels in Nigeria? (2010) Available at SSRN 1959778. At 63.

- Kakonge J O, 'Environmental impact assessment in Africa. Handbook of environmental impact assessment, 1999 (2) 168-181.
- Kalita U and Barua N A, Determining a carbon tax rate for India in the context of global climate change. (2019) 8 (3) International Journal of Recent Technology and Engineering, 2277-3878 at 8185.
- Kalitsi E A, 'Problems and prospects for hydropower development in Africa (2003) In the Workshop for African Energy Experts on Operationalizing the NGPAD Energy Initiative 2-4.).
- Karlsson L and Thompson J, 'Triple wins' or 'triple faults? Analysing the equity implications of policy discourses on climate-smart agriculture (CSA) (2018) 45 (1) The journal of peasant studies, 50-174.
- Keenan R J and Lindquist E, 'Dynamics of global forest area: Results from the FAO Global Forest Resources Assessment (2015) 352 Forest Ecology and Management, 9-20 at 12.
- Khan M and Roberts, J.T, 'Twenty-five years of adaptation finance through a climate justice lens' 2020 (161) (2) Climatic Change, 251-269.
- Khan M R, 'Polluter-Pays-Principle: The Cardinal Instrument for Addressing Climate Change' (2015) (4) Laws 638 638.
- King L C and Van Den Bergh J C, Normalisation of Paris agreement NDCs to enhance transparency and ambition. (2019) 14(8) Environmental Research Letters, 8.
- Kingston K G and Oke-Chinda M, 'The Nigerian land use act: A curse or a blessing to the Anglican Church and the Ikwerre ethnic people of Rivers State. (2016) 6(1) African Journal of Law and Criminology, 1-12.

- Knight C, 'Climate change and the duties of the disadvantaged: reply to Caney (2011) 14(4) Critical review of international social and political philosophy, 531-542.
- Koblowsky P and Ifejika C, 'Institutional challenges to developing a Nigerian climate policy' 2010 11-15.
- Krantberg G, 'The Role of Developing Countries in the Continuation of the Kyoto Protocol (2010).
- Kriebel D and Stoto M, 'The Precautionary Principle in Environmental Science (2001) 109 (9) 871-876 at 871.
- Kumsap K and Indanon R, Integration of community forest management and development activities: (2016) 37 (3) Journal of Social Sciences 132-137.
- Ladan M T, 'Achieving Sustainable Development Goals Through Effective Domestic Laws and Policies on Environment and Climate Change (2018) 48(1) Environmental Policy and Law.42-63.
- Ladan M T, 'Review of NESREA act 2007 and regulations 2009-2011: a new Dawn in environmental compliance and enforcement in Nigeria (2012) Law Env't & Dev. J., 8-116,137.
- Ladan M, Trend in Environmental Law and Access to Justice in Nigeria (Lambert Academic Publishing, Germany, 2012).
- Lawlor K and Ganz D J, 'Community participation and benefits in REDD+: A review of initial outcomes and lessons (2013) 4 (2) Forests, 4(2) 296-318 at 314.
- Le Blanc D, 'Towards integration at last? The sustainable development goals as a network of targets' (2015) 23(3) Sustainable Development 176-187 at 180.
- Leal-Arcas R, Top-down and Bottom-up Approaches in Climate Change and International Trade (Edward Elgar Publishing 2013) 291-359.

- Lee N, Integrating Appraisals and Decision-making. Environmental Assessment in Developing and Transitional Countries: Principles, Methods and Practice. (2000) 27 at Wiley Online Library 161-75.
- Lehtonen M, The environmental–social interface of sustainable development: capabilities, social capital, institutions (2004) 49 (2) Ecological economics, 199-214.
- Lekwot V E and Balasom M K, ‘Climate Change and Its Effect on National Security in Nigeria’ (2014) 2 (4) International Journal of Interdisciplinary Research and Innovations 6.
- Li A, ‘Hopes of Limiting Global Warming? China and the Paris Agreement on Climate Change. China Perspectives, 2016(2016/1), 49-54.
- Lindzen R, ‘Global warming: The origin and nature of the alleged scientific consensus’ (1992) 15 Regulation 87.
- Lohani B N and Tu S L, Environmental impact assessment for developing countries in Asia (1997) 1 Volume 1-overview.
- M, Agbogidi O and Dolor D E, Role of community Forestry in sustainable forest Management and Development: a Review (2010) 7 (1) An International Journal .44-54.
- Mackelworth P and Carić H, ‘Gatekeepers of island communities: exploring the pillars of sustainable development. Environment, (2010) 12 (4) Development and Sustainability, 463-480.
- Madaki K and Sayok A K, ‘Effects of deforestation in Kurmi Local Government Area, Taraba State, Nigeria’ 2019 14(1) Journal of Advanced Research in Social and Behavioural Sciences, 16-28 at 17.

- Magbadelo J O, 'Political Imperative of Managing Climate Change for Sustainable Development in Nigeria's Oil and Gas Sector (2013) 31 The Journal of Political Science.23-42.
- Maisharou A, 'The Great Green Wall of Sahara and Sahel Initiative, Climate Change and Gender Issue' (2014) 2(2) a platform for stakeholders in African forestry 1-34.
- Majekodunmi A, 'The political economy of fuel subsidy removal in Nigeria (2013) 2 (7) International Journal of Management and Social Sciences Research, 76-81 at 81.
- Maljean-Dubois S and Wemaere M, 'The Paris Agreement: A Starting Point towards Achieving Climate Neutrality' (2016) 10 (1) Carbon and Climate Law Review, Lexxion 1-6.
- Maljean-Dubois S, 'The Paris Agreement: a new step in the gradual evolution of differential treatment in the climate regime?' (2016) 25 (2) Review of European, Comparative & International Environmental Law, 25(2),151-160, 156.
- Maltais A and Nykvist B, 'Understanding the role of green bonds in advancing sustainability (2020). Journal of Sustainable Finance & Investment, pp.1-20.
- Manga S, 'Post-Paris Climate Agreement UNFCCC COP-21: Perspectives on International Environmental Governance. African Journal of International and Comparative Law, 26(3), pp.309-338.
- Marchant G E, and Mossman K L, 'Arbitrary and capricious: The precautionary principle in the European Union courts (American Enterprise Institute 2004); C R Sunstein, Beyond the precautionary principle (University of Pennsylvania Law Review 2003) 1003-1058.
- Matthews H D, 'Quantifying historical carbon and climate debts among nations (2016) 6(1) Nature climate change 60.

- Mbaya P, 'Land degradation due to mining: the gunda scenario' (2013) 2(12) International Journal of Geography and Geology 144-158 at 144.
- Mensah J and Casadevall S R, Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review (2019) 5 (1) Cogent Social Sciences 1.
- Mereu, V and Spano D, 'Impact of climate change on staple food crop production in Nigeria' (2015) 132 (2) Climatic change 321-33.
- Metu A and Maduka O, 'Analysis of Crime Rate and Economic Growth in Nigeria: The Institutional Challenges and Way Forward (2018) 15 (1) Journal of Economic Studies, 39-50.
- Meyer L H, 'Why historical emissions should count' (2012) 13 Chi. J. Int'l L. 597.
- Mfon P and Akintoye T A, 'Challenges of Deforestation in Nigeria and the Millennium Development Goals. 2014 (9) 2 International Journal of Environment and Bioenergy, 76-94 at 78.
- Mills-Novoa M and Liverman D M, Nationally Determined Contributions: Material climate commitments and discursive positioning in the NDCs. Wiley Interdisciplinary Reviews (2019) 10(5), Climate Change, 589.
- Mohammed U, 'Corruption in Nigeria: A challenge to sustainable development in the fourth republic. (2013) 9 (4) European Scientific Journal 118 – 137.
- Mohammed Y S and Mokhtar A S, 'Renewable energy resources for distributed power generation in Nigeria: a review of the potential (2013) 22 Renewable and Sustainable Energy Reviews, 257-268.
- Morel R and Delbosc A, 'Financing climate actions in developing countries: What role is there for NAMAs' 2012 (32) Research on the economics of climate change: CDC Climate Research. Climate Research, 14.

- Morel R and Delbosc A, 'Financing climate actions in developing countries: What role is there for NAMAs. Research on the economics of climate change: CDC Climate Research (2012) 32 Climate Research at 5.
- Mostert E, 'The challenge of public participation (2003) 5 (2) Water policy,179-197.
- Munir M, 'History and Evolution of the Polluter Pays Principle: How an Economic Idea Became a Legal Principle? (2013) Available at SSRN 2322485.
- Mustafa S and Salvarli H, 'For Sustainable Development: Future Trends in Renewable Energy and Enabling Technologies Resources, Challenges and Applications (Intech Open 2020) 3.
- Nabegu A B and Naibbi A, 'Environmental regulations in Nigeria: A mini review (2017) 1 (5) International Journal of Environmental Sciences and Natural Resources 4-6.
- Nachmany M and Townshend T, Climate Change Legislation in Nigeria an Excerpt from the Global Climate Legislation Study a Review of Climate Change Legislation in 66 Countries (Fourth Edition 2014) 421.
- Nagarajan A, 'Addressing the Climate Change Debate in Agriculture (2019) 9 Review of Agrarian Studies at 129.
- Napoli C, 'Understanding Kyoto's failure' (2012) 32 (2) SAIS Review of International Affairs, 183-196 at 193.
- Nazrul Islam N and Wang Xi, Environmental Law in Developing Countries: Selected Issues, (IUCN, 2002) 7.
- Nduonofit L and Ekpenyong O A, 'Limitations and Drawbacks of Nigeria's Environmental Protection Law (1980–2010) (2015) 3 (1) International Journal of Innovative Environmental Studies Research, 18.

- Nebechi A and Okoro O, 'The Teacher and the Teaching of Climate Change: A Case Study of Obio-Akpor Local Government Area of Rivers State Nigeria' (2016) 4 (1) Scientific Research Journal (SCIRJ) 30-35.
- Nelson N, 'National energy policy and gas flaring in Nigeria. gas, (2015) 5(14). Journal of Environment and Earth Science at 58-64 at 60.
- Nerini F F and Milligan B, 'Connecting climate action with other Sustainable Development Goals. (2019) 2 (8) Nature Sustainability 674-680 at 678.
- Neumayer E, 'In defence of historical accountability for greenhouse gas emissions'' (2000) 33(2) Ecological Economics 185-192.
- Ngwenya N and Mulala D, 'Unbundling of the green bond market in the economic hubs of Africa: Case study of Kenya, Nigeria and South Africa, (2020) Routledge at 1.
- Ngwenya N and Simatele M D, 'The emergence of green bonds as an integral component of climate finance in South Africa (2020) 116(1-2) South African Journal of Science, 1-3.
- Nhamo L and Matchaya G, 'The water-energy-food nexus: Climate risks and opportunities in southern Africa. (2018) 10 (5) Water 567; M Scobie, 'Policy coherence in climate governance in Caribbean small island developing states (2016) 58 Environmental Science & Policy,16-28.
- Nunes L J and Ribeiro N, 'Forest Management and Climate Change Mitigation: A Review on Carbon Cycle Flow Models for the Sustainability of Resources. 2019 (11) 19 Sustainability 5276 at 5277.
- Nwachukwu M U, and Chike H, 'Fuel subsidy in Nigeria: Fact or fallacy (2011) 36(5) Energy 2796-2801. At 2797.

- Nwagbara O and Okugo U C, ‘The Role of Radio in Creating Awareness of Climate Change Among Crop Farmers in Abia State (2018) 14 (1) *Índuñode* at 234-249.
- Nwankwojike B N, and Egwuagu M O, ‘Life Cycle Cost Analysis of Residential Power Backup Gasoline Generators in Nigeria’ (2019) 23 (12) *Journal of Applied Sciences and Environmental Management* 2259-2261.
- Nwocha M E, ‘Impact of the Nigerian Land Use Act on Economic Development in the Country (2016) 8 (2) *Acta Universitatis Danubius. Administratio*, 117-128.
- Nwoko C O, ‘Evaluation of environmental impact assessment system in Nigeria (2013) 2 91) *Greener Journal of Environmental Management and Public Safet*,022-031 at 27.
- Nzeadibe T C and Agu V C, ‘Climate change awareness and adaptation in the Niger Delta Region of Nigeria’ (2011) *African Technology Policy Studies Network, Nairobi*
- O I and Govender P, ‘Prospect of wind energy in Nigeria. In Proceedings of the International Conference on Domestic Use of Energy, (2007) Cape Town, South Africa P 10-13.
- Obergassel W and Wang-Helmreich H, ‘Phoenix from the ashes: an analysis of the Paris Agreement to the United Nations Framework Convention on Climate Change – Part I (2015) Wuppertal Institute for Climate, Environment and Energy, Germany 245-247.
- Obergassel W and Wang-Helmreich H, ‘Phoenix from the ashes: an analysis of the Paris Agreement to the United Nations Framework Convention on Climate Change; part 1 (2015) Wuppertal Institute for Climate, Environment and Energy, Germany.

- Obo U and Coker M, 'Fuel Subsidy Removal and The Ubiquity of Hardship in Nigeria: President Buhari and Lessons from King Rehoboam (2017) 4 (14) *Advances in Social Sciences Research Journal* 113-126 at 124.
- Odemerho F O, 'Building climate change resilience through bottom-up adaptation to flood risk in Warri, Nigeria 2015 27(1) *Environment and Urbanization* 139-160.
- Odumugbo C A, 'Natural gas utilisation in Nigeria: Challenges and opportunities (2010) 2(6) *Journal of Natural Gas Science and Engineering*, 2(6) 310-316 at 313.
- Odunwole S and Joseph O, 'Implications of Fuelwood Demand on Sustainable Forest Conservation of the Sub-Sahara Africa (2017) 6(4) *International Journal Of Scientific & Technology Research* at 74.
- Ogbuigwe A, 'Refining in Nigeria: history, challenges and prospects' (2018) 6 (4) *Applied Petrochemical Research* 181-192.
- Oke Y, 'International Climate Law and Mining Regulation–Perspectives from Developing Countries (2013) *International Law and Global Governance* 899-932
- Okereke C and Dooley K, 'Principles of justice in proposals and policy approaches to avoided deforestation: towards a post-Kyoto climate agreement (2010) 20 (1) *Global Environmental Change*, 82-95 at 91.
- Okwanya I, and Pristine M J, 'An Assessment of the impact of petroleum subsidy on consumer price index in Nigeria (2015) 4 (1) *Global Journal of Interdisciplinary Social Sciences*,.36-39 at 36.
- Olukanni D and Aremu D, 'A review of local factors affecting solid waste collection in Nigeria *Pollution* (2016) 2(3) Summer 339-356, 34.
- Omofonmwan S I and Osa-Edoh G I, 'The challenges of environmental problems in Nigeria 2008 23(1) *Journal of human Ecology*, pp.53-57.

- Omole D O and Ndambuki M J, ‘Waste management practices in Nigeria: Impacts and mitigation in Geological Society of America Special Papers (2016) 520, 383.
- Omotehinse A O and Ako B D, ‘The environmental implications of the exploration and exploitation of solid minerals in Nigeria with a special focus on Tin in Jos and Coal in Enugu (2019) 18 (1) Journal of Sustainable Mining 18-24 at 18.
- Oniemola P K, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector?’ 2016 (60) (1) Journal of African Law 29-55 at 42.
- Oniemola P K, ‘Why should oil rich Nigeria make a law for the promotion of renewable energy in the power sector? Journal of African Law, 2016 60(1) 29-55 at 42-47.
- Oniemola P K, and Sanusi G, ‘The Nigerian Bio-Fuel Policy and Incentives (2007): a need to follow the Brazilian pathway In Energy, Economy, Environment: The Global View: Proceedings of the 32nd IAEE International Conference (2009) 21-24 at 38.
- Onolemhemhen R U and Adenikinju A, ‘An evaluation of domestic gas utilization on the Nigerian economy (2017) Journal of Economics, Management and Trade 1-13.
- Onyeneke R U and Nwajiuba C A, ‘Evidence-Based Policy Development: National Adaptation Strategy and Plan of Action on Climate Change for Nigeria (NASPA-CCN) 2020 (African Handbook of Climate Change Adaptation,1-18.
- Orimoogunje O, and Asifat J, ‘Fuel Wood Consumption and Species Degradation in South-Western Nigeria: The Ecological Relevance (2015) 8 (1) Journal of Landscape Ecology, 56-68.

- Oriola E O, 'Forestry for sustainable development in Nigeria' (2009) (1) International journal of African studies 11-16.
- Orji J U, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime' (2014) 38(2) OPEC Energy Review 149-183; 150.
- Orset C, 'Innovation and the precautionary principle (2014) 23 (8) Economics of Innovation and New Technology 780-801.
- Oseni M O, 'Improving households' access to electricity and energy consumption pattern in Nigeria: Renewable energy alternative (2012)16 (6) Renewable and Sustainable Energy Reviews,3967-3974 at 3967.
- Oseni M O, 'Improving households' access to electricity and energy consumption pattern in Nigeria: Renewable energy alternative (2012)16 (6) Renewable and Sustainable Energy Reviews,3967-3974 at 3967.
- Osoba S, 'Corruption in Nigeria: historical perspectives' Review of African Political Economy, 1996 23(69), at 371-386.
- Owens S, 'Engaging the public: information and deliberation in environmental policy' (2000)32 Environment and Planning 1141-8.
- Oyebo M and Morakinyo T, A Preliminary Assessment of the Context for REDD in Nigeria commissioned by the Federal Ministry of Environment, the Cross-River State's Forestry Commission and UNDP (2010) 32.
- Oyebo M and Morakinyo T, A Preliminary Assessment of the Context for REDD in Nigeria commissioned by the Federal Ministry of Environment, the Cross-River State's Forestry Commission and UNDP (2010) 37-38.
- Oyedepo S O, 'Energy and sustainable development in Nigeria: the way forward (2012) 2 (1) Energy, Sustainability and Society 15, 11.

- Oyedepo S O, 'Towards achieving energy for sustainable development in Nigeria (2014) 34 Renewable and sustainable energy reviews, 255-272 at 263 -265.
- Ozor N and Amaechina E C, 'A framework for agricultural adaptation to climate change in Southern Nigeria (2012) 4 (5) International Journal of Agriculture Sciences 243-252 at 264.
- Pegels A, 'Taxing carbon as an instrument of green industrial policy in developing countries, Discussion paper (2016) 23 Enconstor, at 6-10
- Pelletier J and Skutsch M, 'The place of community forest management in the REDD+ landscape (2016) 7 (8) Forests at page 2.
- Pellizzoni L, 'Uncertainty and Participatory Democracy', (2003) 12 (2) Environmental Values 195-224.
- Perry-Kessaris A, 'What does it mean to take a socio-legal approach to international economic law?' (2013) In Socio-Legal Approaches to International Economic Law (2013) Routledge 17-32, 2.
- Petkova E and Hoff G, 'Closing the gap: Information, participation and justice in decision-making for the environment (FAO 2002).
- Pillay S, 'An assessment of Clean Development Mechanism project contribution to sustainable development in Nigeria 2016 (15) 6 International Business & Economics Research Journal (IBER), 315-328 at 321.
- Priest G L, 'The growth of interdisciplinary research and the industrial structure of the production of legal ideas: A reply to Judge Edwards (1993) 91(8) Michigan law review 1929-1944, 1932.
- Purvis B and Robinson D, 'Three pillars of sustainability: in search of conceptual origins (2019) 14 (3) Sustainability science, 681-695.

- R J Baumgartner, ‘Sustainable development goals and the forest sector—A complex relationship’ (2019) 10 (2) *Forests* at 6.
- R Jackson and G Peters, ‘Persistent fossil fuel growth threatens the Paris Agreement and planetary health (2019) 14(12) *Environmental Research Letters* at 7.
- Raiyani C and Kashyap S, ‘Characterization and problems of indoor pollution due to cooking stove smoke 1993 27 (11) *Atmospheric Environment. Part A. General Topics* 1643-1655 at 1643
- Rajamani L, ‘The Durban platform for enhanced action and the future of the climate regime 2012 61 (2) *International & Comparative Law Quarterly*, 61(2) 501-518.
- Rajamani L, ‘The Papal Encyclical & The Role of Common but Differentiated Responsibilities in the International Climate Change Negotiations 2015 *AJIL Unbound*, 109, 142-146.
- Rajamani L, *The Warsaw climate negotiations: emerging understandings and battle lines on the road to the 2015 climate agreement*, 2014 63(3) *International & Comparative Law Quarterly* 721-740.
- Ramos G, *Public Participation in Environmental Governance’* (2008) 7 (21) *Globalnation.inquirer.ne* at 7.
- Ray Jennings, *Participatory Development as New Paradigm: The Transition of Development Professionalism* (2000) 5 *Washington DC* at 1.
- Reid A, ‘Climate change education and research: possibilities and potentials versus problems and perils? (2019) 26 (6) *Routledge* 767-790 at 767.
- Rentschler J and Bazilian, M, ‘Reforming fossil fuel subsidies: drivers, barriers, and the state of progress. *Climate Policy*, (2017) 17(7), pp.891-914.
- Richard A and Okechukwu I, ‘Challenges of “Feeding Bottle Federalism” in Nigeria’ 2016 (1) 2 *Journal of Current Issues in Arts and Humanities* 34-52.

- Ringius L and Underdal A, 'Burden sharing and fairness principles in international climate policy (2002) 2(1) International Environmental Agreements 1-22.
- Rodriguez R S and Ürge-Vorsatz D, 'Sustainable Development Goals and climate change adaptation in cities (2018) 8(3) Nature Climate Change 181.
- Rose N, 'Climate Change Education in Nigeria: The Role of Curriculum Review' (2016) 5(3) education 71-79.
- Rosen A M, 'The wrong solution at the right time: The failure of the kyoto protocol on climate change (2015) 43 910 Politics & Policy, 30-58.
- Rosendahl K E and Strand J, 'Carbon leakage from the clean development mechanism (2011) The Energy Journal, 1-33, 3.
- Rotowa O J and Blessing O M, 'Effect of Indiscriminate Charcoal Production on Nigeria Forest Estate (2019)7(6) International Journal of Environmental Protection and Policy 144 at 144.
- Rudloff A, 'Beyond headline mitigation numbers: we need more transparent and comparable NDCs to achieve the Paris Agreement on climate change (2018) 147(1), Climatic Change, 23-29
- S Maljean-Dubois and M Wemaere, 'The Paris Agreement: A Starting Point towards Achieving Climate Neutrality' 2016 (10)1 Carbon and Climate Law Review, Lexxion 1-6.
- Saka-rasaq O, 'Forest Loss in Nigeria, the Impact on Climate and People from the perspectives of illegal Forest activities and Government Negligence (Raseborg, 2019).
- Sandin P, The precautionary principle and food safety (2006) 1(1) Journal für Verbraucherschutz und Lebensmittelsicherheit, 2-4.

- Santini M and Cervigni R, 'Climate projection ensemble as support to water management and irrigation in Nigeria' (2013) 4(3) *Journal of Water and Climate Change* 287-301.
- Sari A, *Developing Country Participation: The Kyoto-Marrakech Politics* (2005). Hamburg Institute of International Economics (HWWA) Discussion Paper.
- Sasaki N and Koh L P, 'Sustainable Forest management of tropical forests can reduce carbon emissions and stabilize timber production (2016) 4(50) *Frontiers in Environmental Science* at 1.
- Schmutzenhofer H, 'The IUFRO position on sustainable management of tropical forests (1996) *FAO Forestry Paper*, 23-32.
- Scholtz W, 'Equity as the basis for a future international climate change agreement: between pragmatic panacea and idealistic impediment. The optimisation of the CBDR principle via realism' (2009) 42(2) *The Comparative and International Law Journal of Southern Africa* 166 167.
- Shaaban M and Petinrin J, 'Renewable energy potentials in Nigeria: Meeting rural energy needs (2014) 29 *Renewable and Sustainable Energy Reviews*, 72-84 at 75-78.
- Shamin K and Kibugi R, 'Brief on Sustainable Development Goal 13 on Taking Action on Climate Change and Its Impacts: Contributions of International Law, Policy and Governance' (2017) 13 *McGill J. Sust. Dev. L* 183.
- Sharif H A and Garba I G, *Gas Flaring: When Will Nigeria Decarbonise Its Oil and Gas Industry* (2016) 1(3) *International Journal of Economy, Energy and Environment*, 40-54, 46.
- Shishlov I and Cochran I, 'Beyond transparency: unlocking the full potential of green bonds (Institute for Climate Economics 2016) 1-28.

- Shukla P, 'Justice, equity and efficiency in climate change: a developing country perspective 1999 *Fairweather* 145-159.
- Sloan S and Laurance W F, 'Does Indonesia's REDD+ moratorium on new concessions spare imminently threatened forests? (2012) 5 (3) *Conservation Letters*, 222-231 at 222.
- Smith K, 'Health impacts of household fuelwood use in developing countries (2006) 57 (2) *UNASYLVA-FAO-* at 41.
- Soile I and Musa-Yar'Adua B, 'The impact of gasoline subsidy removal on the transportation sector in Nigeria (2014) 2 (3) 60-66 at 60.
- Solomon V A and Akpan O D 'Impacts of Climate Variability on Wetland and Fishing Households in the Niger Delta Region, Nigeria' (2015) 7(3) *Asian Journal of Agriculture* 1-9.
- Sprain L, *Paradoxes of public participation in climate change governance* (2017) 25(1), *The Good Society*, 62-80.
- Stone C, 'Common but differentiated responsibilities in international law' 2004 98 (2) *American Journal of International Law* 276-301.
- Sunstein C R, *Beyond the precautionary principle* (*University of Pennsylvania Law Review* 2003) 1003-1058.
- Tacconi L and Maryudi A, 'Law enforcement and deforestation: Lessons for Indonesia from Brazil (2019) 108 *Forest policy and economics*, at 8.
- Taylor P, 'An ecological approach to international law, Responding to challenges of climate change (1998) 13; C Wold et al *Climate Change and the Law* (2009) 5-6.
- Terdoo F, and Adekola O, 'Assessing the role of climate-smart agriculture in combating climate change, desertification and improving rural livelihood in Northern Nigeria (2014) 9 (15) *African journal of agricultural research*, 1180-1191.

- Thoday K and Puzzolo E, 'The Mega Conversion Program from kerosene to LPG in Indonesia: Lessons learned and recommendations for future clean cooking energy expansion (2018) 46 Energy for Sustainable Development, 71-8.
- Tosun J and Leininger J, 'Governing the interlinkages between the sustainable development goals: Approaches to attain policy integration (2017) 1(9) Global Challenges 1700036.
- Tunde E Z and James R O, 'Hike in Pump Price: Major Doom to Nigerian Forest' (2018) 3(2), Journal of Energy, Environmental & Chemical Engineering, 19-26 at 19.
- Turnhout E and Lederer M, 'Envisioning REDD+ in a post-Paris era: between evolving expectations and current practice. Wiley interdisciplinary reviews: 2017 (8) 1 climate change 1- 13.
- Uchenna Jerome, 'Moving from gas flaring to gas conservation and utilisation in Nigeria: a review of the legal and policy regime'¹ (2014) 38(2) OPEC Energy Review 149-183.
- Usman A and Ifabiyi I P, 'Socio-economic analysis of the operational impacts of Shiroro hydropower generation in the lowland areas of Middle River Niger' (2012) 2/4 International Journal of Academic Research in Business and Social Science 57 at 58.
- Usman B A and Adefalu L L, 'Nigerian forestry, wildlife and protected areas' (2010) 11(3-4) Status report. Biodiversity 54-62.
- Uyigue E and Agho M, 'Coping with climate change and environmental degradation in the Niger Delta of southern Nigeria' (2007) Community Research and Development Centre Nigeria (CREDC).24-27.

- Van Wyk S, *The impact of climate change law on the principle of state sovereignty over natural resources* (Nomos Verlag 2017) 116; Principle 4 of The Rio Declaration on Environment and Development (1992).
- Vanderheiden S, 'Justice and climate finance: Differentiating responsibility in the Green Climate Fund (2015) 50 (1) *The International Spectator*, 31-45 at 31.
- Vértesy L, *The Public Participation in the Drafting of Legislation in Hungary* 92(16) 14 *Int'l Pub. Admin. Rev* 115.
- Vícha O, 'The polluter-pays principle in OECD recommendation and its application in international and EC/EU law' (2011) *Czech Yearbook of Public & Private International Law* 57 58.
- Vierikko K, and Linden H, 'Meeting the ecological, social and economic needs of sustainable forest management at a regional scale 2008 (23) 5 *Scandinavian Journal of Forest Research* 431-444.
- Voigt C, 'Is the Clean Development Mechanism Sustainable? Some Critical Aspects. (2010) 8 (2) *Sustainable Development Law & Policy*, 615-21 20.
- Weiler F and Klöck C, 'Donor interactions in the allocation of adaptation aid: A network analysis' (2021)7 *Earth System Governance*, 2-11.
- Weisslitz M, 'Rethinking the equitable principle of common but differentiated responsibility: differential versus absolute norms of compliance and contribution in the global climate change context' 2002 *Colo. J. Int'l Envtl. L. & Pol'y* 13,473.
- Wengert N, *Citizen participation: practice in search of a theory* (1976) 16 *Nat. Resources J.*23; D M Connor, 'A new ladder of citizen participation (1988) 77(3), *National Civic Review*, 249-257.
- Wiersum k f, '200 years of sustainability in forestry: lessons from history (1995) 19(3), *Environmental management*, 321-329 at 321.

- Wimbush S H, ‘Afforestation of Restored Tin-Mining Land in Nigeria (1963) 42 (113) The Commonwealth Forestry Review 255-262.
- Wood C, Environmental impact assessment in developing countries. International Development Planning Review (2003) 25(3) Liverpool university press at 301-322.
- Xu B and Lin B, ‘Can expanding natural gas consumption reduce China's CO2 emissions? (2019) Energy Economics, 81, pp.393-407 at 393.
- Yeang D, ‘Community tenure rights and REDD: a review of the Oddar Meanchey community forestry REDD project in Cambodia (2012) 5 (2) ASEAS-Austrian Journal of South-East Asian Studies, 263-274.
- Zahar A, ‘The Polluter-Pays Principle in International Climate Change Law: Are States Under an Obligation to Price Carbon Emissions?’ 2018 SSRN 1.
- Zhang J and Wang C, Co-benefits and additionality of the clean development mechanism: An empirical analysis. Journal of Environmental Economics and Management, (2011) 62(2), pp.140-154.
- Mulligan S P, Withdrawal from international agreements: legal framework, the Paris agreement, and the Iran nuclear agreement (2018) Congressional Research Service.

Climate change reports.

- ‘UNEP (2017). The Emissions Gap Report 2017. United Nations Environment Programme (UNEP), Nairobi > https://wedocs.unep.org/bitstream/handle/20.500.11822/22070/EGR_2017.pdf > accessed 12th June 2019.
- A self-report on G20 of peer review of inefficient fossil fuel subsidies that encourage wasteful consumption in Indonesia Available at <https://www.oecd.org/fossil-fuels/publication/Indonesia%20G20%20Self-Report%20IFFS.pdf> > Accessed 12th September 2020.

- Brundtland G, (1987) Report of the World Commission on Environment and Development: Our Common Future. United Nations General Assembly Document A/42/427.
- Canada's 2017 Nationally Determined Contribution Submission To The United Nations Framework Convention On Climate Change available at < <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Canada%20First/Canada%20First%20NDC-Revised%20submission%202017-05-11.pdf> > accessed 20th January 2020.
- Canada's INDC submission to the UNFCCC at 4 available <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Canada/1/INDC%20-%20Canada%20-%20English.pdf> > accessed 1st November 2019.
- Climate Finance Shadow Report 2020 Assessing Progress Towards The \$100 Billion Commitment (2020 REPORT) 2 available at [Climate Finance Shadow Report 2020: Assessing progress towards the \\$100 billion commitment \(openrepository.com\)](https://www.openrepository.com/handle/10261/172444) >Accessed 15th September 2021.
- Department of Environmental Affairs Republic of South Africa, South Africa's 3rd Biennial Update Report To The United Nations Framework Convention On Climate Change (2019) available at page 176 <https://unfccc.int/sites/default/files/resource/Final%203rd%20BUR%20of%20South%20Africa%20100.pdf> > Accessed 10 August 2020 .
- Final Report of First Project steering committee meeting 26 – 27 September 2011, Addis Ababa, Ethiopia at 4 available at <http://www.fao.org/3/a-ax344e.pdf> > Accessed 20 June 2020.
- Haider H, 'Climate change in Nigeria impacts and responses' Helpdesk Report (2019) at 23.

- Iceland’s Intended Nationally Determined Contribution at 2 available at <https://www4.unfccc.int/sites/submissions/INDC/Published%20Documents/Iceland/1/INDC-ICELAND.pdf> > accessed 2nd November 2019.
- Implementation of the SDGs A National Voluntary Review (2017) at 1 available, <<https://sustainabledevelopment.un.org/content/documents/16029Nigeria.pdf> > Accessed 11th April 2020
- Intended Nationally Determined Contribution of the EU and its Member States (2015) available at <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20Kingdom%20of%20Great%20Britain%20and%20Northern%20Ireland%20First/LV-03-06-EU%20INDC.pdf> > Accessed 20th January 2020.
- Intended nationally determined contribution of the United State of America available at <<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First/U.S.A.%20First%20NDC%20Submission.pdf> > Accessed 20th January 020.
- IPCC: Masson-Delmotte V and Waterfield T, IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (eds. 2018 World Meteorological Organization, Geneva, Switzerland)33.
- IPCC: Houghton J and Ephraums J, Climate Change, Intergovernmental Panel on Climate Change (The IPCC scientific assessment, Mass, Cambridge 1990); J Ralph,

Cicerone and Paul Nurse Climate Change Evidence & Causes; An overview from the Royal Society and the US National Academy of Sciences (Q and A).

- IPCC: Houghton J and John T, Climate change 1995: The science of climate change: contribution of working group I to the second assessment report of the Intergovernmental Panel on Climate Change (Vol. 2. Cambridge University Press, 1996) 4.
- IPCC: Houghton J and John T, Climate change 2001: the scientific basis. The Press Syndicate of the University of Cambridge 2001) 1.
- IPCC: R.K. Pachauri and L.A. Meyer, Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change 151. Though, IPCC is currently in its sixth assessment cycle which will be ready for facilitative dialog at the end of 2018.
- Major Waves Energy Report < <https://majorwavesenergyreport.com/gas-flare-commercialisation-set-to-attract-3-5bn-investments-to-nigeria-fg/> > accessed 5th April 2019.
- Morocco Nationally Determined Contribution Under the UNFCCC at 8 available at < <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Morocco%20First/Morocco%20First%20NDC-English.pdf> > accessed 12th October 2019.
- National Environmental, Economic and Development Study (NEEDS) For Climate Change in Nigeria (2010).
- Nigeria's Intended Nationally Determined Contribution (Submitted by The Federal Government of Nigeria Being a Requirement by Conference of Parties to the United Nations Framework Convention on Climate change (COP-UNFCCC) in Preparation for the Adoption of Climate Change Agreement at the Paris Conference on Climate change coming up in December 2015 Prepared by the Federal Ministry of Environment.

- NNPC Monthly report Financial and Operations Report December 2017 < [Monthly Report \(nnpcgroup.com\)](#) > accessed 5th May 2019.
- NNPC Monthly report Financial and Operations Report December 2018; < [Monthly Report \(nnpcgroup.com\)](#)> accessed 5th May 2019.
- Norway's Fourth Biennial Report Under the Framework Convention on Climate Change, (Norwegian Ministry of Climate and Environment 2020) At 16.
- Pan African Centre for Climate Change, A Report On The Progress Of Nigeria's Intended Nationally Determined Contribution (2017) page 6 available <http://pacepolicy.org/wp-content/uploads/2017/04/A-report-of-Nigeria-Progress-on-the-INDC.pdf> > Accessed 20 December 2019.
- Quarterly Report, First Quarter 2019 'Nigerian Electricity Regulatory Commission (NERC)
- Quarterly Report, Second Quarter 2020 'Nigerian Electricity Regulatory Commission (NERC) 1-80 at 24.
- Report of the Vision 2020 National Technical Working Group on Environment and Sustainable Development' (Federal Ministry of Budget and National Planning 2009) 26
- Science for Environment Policy (2017) The Precautionary Principle: decision making under uncertainty. Future Brief 18. Produced for the European Commission DG Environment by the Science Communication Unit, UWE, Bristol. 8 Available at: <http://ec.europa.eu/science-environment-policy> > accessed 22nd August 2019.
- Singapore's Intended Nationally Determined Contribution (INDC) And Accompanying Information at 1 available <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Singapore%20First/Singapore%20INDC.pdf> > accessed 12 October 2019 .

- South Africa's Intended Nationally Determined Contribution (INDC) at 11 available at <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf> > accessed 12th October 2019.
- T Sunderland, Cross River Community Projects Timber Product: Non-Timber Forest Advisor Report (ERM 2001) 19.
- The Ministry of Environment of the Federal Republic of Nigeria (2003) Nigeria's First National Communication Under the United Nations Framework Convention on Climate change (UNFCCC) 97.
- The Presidency, Roadmap For Power Sector Reform(A Customer-Driven Sector-Wide Plan To Achieve Stable Power Supply) Federal Republic Of Nigeria 2010 < <http://anedng.com/wp-content/uploads/2016/03/Roadmap-for-Power-Sector-Reform-Full-Version.pdf> > accessed 12 October 2019.
- The World Bank Group Climate Change, carbon finance for sustainable development (2013 Annual Report) at 5.
- United Nations, Report of the United Nations Conference on New and Renewable Sources of Energy, Nairobi, 1981. Available at <https://digitallibrary.un.org/record/25034?ln=en> .> accessed 12th September 2020.
- UN-REDD Programme, National Programme Final Report Nigeria (2018).
- WWF Report 2018, Forests and Sustainable Development the Role of SDG 15 In Delivering the 2030 Agenda (WWF edn, 2018) 8-11 available at https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_forest_practice_report_hlpf_2018_forests_and_sustainable_development_the_role_of_.pdf > Accessed 23 April 2020.
- United Nations Forum on Forests, Report of the seventh session (24 February 2006 and 16 to 27 April 2007) E/2007/42 E/CN.18/2007/8 available at

<https://www.un.org/esa/forests/wp-content/uploads/2013/09/E-2007-42-UNFF7Report.pdf> > Accessed 3rd March 2020.

Online media sources

- ‘National Adaptation Plans’ <
https://www4.unfccc.int/sites/NAPC/News/Pages/national_adaptation_plans.aspx >
Accessed 2nd April 2020.
- ‘Nigeria overtakes India as world’s poverty capital — Report’ (Vanguard Newspaper June 2018) available at <https://www.vanguardngr.com/2018/06/nigeria-overtakes-india-as-worlds-poverty-capital-report/Federal> >accessed 22nd June 2018
- ‘Sustainable Development Goal Knowledge Platform’ Global Conference on Strengthening Synergies between the Paris Agreement and the 2030 Agenda for Sustainable Development: Maximizing Co-Benefits by Linking Implementation across SDGs and Climate Action. (United Nations 2019) at 65 ><https://sustainabledevelopment.un.org/climate-sdgs-synergies2019> > accessed 29th August 2019.
- A Adedapo, ‘PMB, Jonathan And The Long Awaited Assent To Climate Change Bill’ (2018) Leadership Newspaper < <https://leadership.ng/2018/04/18/pmb-jonathan-and-the-long-awaited-assent-to-climate-change-bill/> > accessed 13th December 2018.
- A Citizens’ Guide to Energy Subsidies in Nigeria (Institute for Sustainable development 2012) page 7 available at <
https://www.iisd.org/gsi/sites/default/files/ffs_nigeria_czguide.pdf > accessed 12 August 2020.
- Abba A, How Nigeria lost N439bn to gas flared by oil companies in 2020 (ICIR 2021) available at [How Nigeria lost N439bn to gas flared by oil companies in 2020 \(icirnigeria.org\)](https://www.icirnigeria.org) > accessed 21 April 2021.

- Abrose J ‘UK to be left with five coal power stations after latest closure’ The Guardian 13th June 2019 < <https://www.theguardian.com/environment/2019/jun/13/mild-but-windy-winter-was-greenest-ever-for-uk-energy-use> > access 4 December 2019.
- Action for Climate Empowerment: Guidelines for accelerating solutions through education, training and public awareness (UNESCO and UNFCCC 2016) at 3 available at https://unfccc.int/sites/default/files/action_for_climate_empowerment_guidelines.pdf <accessed 5th July 2019.
- Adamu A, Nigeria to save N1 trillion with subsidy removal, says Sylva (Guardian Newspaper 2020) available at [Nigeria to save N1 trillion with subsidy removal, says Sylva | The Guardian Nigeria News - Nigeria and World News](#) Nigeria — The Guardian Nigeria News – Nigeria and World News > Accessed 11 May 2021.
- Adanikin O, ‘Investigation: Failed contracts, lack of community ownership mar multi-billion Naira Great Green Wall project’ (International Centre for investigation Reporting 2019) <<https://www.icirnigeria.org/investigation-failed-contracts-lack-of-community-ownership-mars-multi-billion-naira-great-green-wall-project/> > Accessed 7th December 2019.
- Adanikin O, ‘Investigation: Jonathan, Buhari spent N1.164 trillion on power in 8 years, yet Nigeria remains in darkness’ (2020 Premium Times) available at <https://www.premiumtimesng.com/investigationspecial-reports/357448-investigation-jonathan-buhari-spent-n1-164-trillion-on-power-in-8-years-yet-nigeria-remains-in-darkness.html> > Accessed 10th April 2020.
- Adaptation Fund, Accredited Implementing Entities as at March 2020 available at < <https://www.adaptation-fund.org/wp-content/uploads/2020/03/Accreditation-status-of-the-Implementing-Entities-March-2020.pdf> > Accessed 4th April 2020.

- Adaptation Fund, Parties' Designated Authorities available at < <https://www.adaptation-fund.org/apply-funding/designated-authorities/> > Accessed 4th April 2020.
- Adekunle D, Premium Times Centre for investigative Journalism available at <https://ptcij.org/blog/issue/infrastructures-cost-of-nigerias-n30-5-billion-gas-flaring-fines/> .> Accessed 22nd March 2020.
- Adoyi A, 'FG partners ADB on coal power generation' (2017) Daily Post (25-4-2017), at <<http://dailypost.ng/2017/04/25/fg-partners-adb-coal-power-generation/>> Accessed 2nd November 2019.
- Alake T, Nigeria Prioritizes Fuel Subsidy Over Health and Education (Bloomberg 2019) available at [Nigeria Prioritizes Fuel Subsidy Over Health, Education: Chart - Bloomberg](#) > accessed 11 May 2021.
- Ali Y, Legal Profession and Climate Change in Nigeria> https://www.yusufali.net/articles/legal_profession_and_climate_change_in_nigeria.pdf > Accessed 12 June 2018.
- Aljazeera, 'Nigeria's parliament passes record budget for 2020' (2019) < <https://www.aljazeera.com/ajimpact/nigeria-parliament-passes-record-budget-2020-191205181608971.html> > Accessed 2nd April 2020.
- Aljazeera, Forty percent of Nigerians live below the poverty line: Report (Aljazeera News May 2020) available at < <https://www.aljazeera.com/news/2020/09/facing-normalisation-threat-palestinians-respond-unity-200914175752492.html> > accessed 12 August 2020.
- Andrés C, 'Emissions Loophole Stays Open in EU' (The New York Times 2014) available at <https://www.nytimes.com/2014/11/19/business/energy-environment/emissions-loophole-stays-open-in-eu.html> > Accessed 12 March 2020.

- Anukum I, ‘NESREA urges compliance with EPR policy on solid waste’ [The Guardian 2015] <<http://guardian.ng/property/nesrea-urges-compliance-with-epr-policy-on-solid-waste/>> accessed 25 March 2019.
- Asu F, FG targets N103bn from gas flaring penalty (Punch Newspaper 2020) available at [FG targets N103bn from gas flaring penalty - Punch Newspapers \(punchng.com\)](#) > accessed 21 April 202.
- Bala gbodgo E, Oil Crash Spurs Nigeria to End Fuel Subsidies, Risk Backlash (Bloomberg 2020) available at [Oil Crash Spurs Nigeria to End Fuel Subsidies, Risk Backlash - Bloomberg](#) > accessed 3rd March 2021.
- BBC News, Nigeria's NNPC 'failed to pay' \$16bn in oil revenues available at <<https://www.bbc.co.uk/news/world-africa-35810599>> Accessed 9th 2020.
- Carbon Pricing Leadership Coalition, available at <<https://www.carbonpricingleadership.org/what>> Accessed 18th May 2020.
- Channels tv Newa ‘Corruption Scandal: NDDC Is A ‘Cash Cow’ For Politicians’ available at <<https://www.channelstv.com/2020/08/04/corruption-scandal-nddc-is-a-cash-cow-for-politicians-wike/>> Accessed 22nd August 2020 .
- Climate Bond Initiative available at <[Explaining green bonds | Climate Bonds Initiative](#)> accessed 20th March 2021.
- Corcoran J, Ekuri Initiative Nigeria, Equator Initiative Case Studies Local sustainable development solutions for people, nature, and resilient communities (UNDP 2004) available at <<https://sgp.undp.org/resources-155/award-winning-projects/374-ekuri-initiative/file.html>> Access 4th February 2020.
- Daily Trust Newspaper, Nigeria: Investigation - Despite 36 Mining Licences, 10,000MW Coal for Power Capacity Idle (2019) available at <[Nigeria: Investigation -](#)

[Despite 36 Mining Licences, 10,000MW Coal for Power Capacity Idle - allAfrica.com](#)

> accessed.

- Daniel S, 'Buhari signs Paris Agreement, says Nigeria will reverse effects of climate change' (Vanguard Newspaper September 22, 2016) < <https://www.vanguardngr.com/2016/09/buhari-signs-paris-agreement-says-nigeriiall-reverse-effects-climate-change/> > accessed 2 October 218.
- Davenport C and Friedman L, 'Biden Cancels Keystone XL Pipeline and Rejoins Paris Climate Agreement' (The New York Times Feb 2021) available at < [Coral Davenport - The New York Times \(nytimes.com\)](#) > ACCESSED 13 May 2021.
- David P. Barash, Costa Rica's peace dividend: How abolishing the military paid off (Los Angeles Times 2013) available at [Costa Rica's peace dividend: How abolishing the military paid off - Los Angeles Times \(latimes.com\)](#) accessed 6th April.
- Delivering the EU's 2030 Climate Target on the way to climate neutrality (E U 2021) 1-2 available at < [chapeau_communication.pdf \(europa.eu\)](#) > Accessed 13th September 2021.
- Department for Environment food and rural Affairs, 'The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting' 2018 pages 2-3 available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727252/national-adaptation-programme-2018.pdf > Accessed 2nd February 2018.
- Department of Business, Energy and Industrial Strategy, UK Energy Statistics, Q1 2019 at 9-11 available < https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/812626/Press_Note_June_19.pdf > Accessed 12 October 2019.

- Dockrill P, ‘The UK Has Gone 6 Days Without Burning Coal Now, And Guess What, The World Didn't End’ (science Alert) may 2019 < <https://www.sciencealert.com/the-uk-is-in-the-midst-of-a-record-breaking-run-without-burning-coal-right-now> > accessed 2nd November 2019.
- Earth Laws Asia Pacific, 3 days Conference 14-16 October 2020 available at <https://www.earthlaws.org.au/what-is-earth-jurisprudence/rights-of-nature/bolivia/#:~:text=The%20laws%20recognised%20that%20nature,have%20cellular%20structure%20modified%20or> > Accessed 15 October 2020.
- Ebiri K, ‘Ending gas flare in 2020, another promise amid scepticism’ (The Guardian 2018) < <https://guardian.ng/saturday-magazine/cover/ending-gas-flare-in-2020-another-promise-amid-scepticism/>> accessed 23rd April 2019.
- Eboh M, ‘Gas flaring: Oil firms pay N1.8bn fines’ (Vanguard Newspaper January 2016) available at <https://www.vanguardngr.com/2016/01/gas-flaring-oil-firms-pay-n1-8bn-fines/> > Accessed 23rd March 2020.
- Ekott I, Investigation: How a \$4 million UN climate programme impoverished Nigerian communities’ (Premium Times 2016) available at < <https://www.premiumtimesng.com/news/headlines/202150-investigation-4-million-un-climate-programme-impoverished-tortured-nigerian-communities.html> > Accessed 5th January 2020.
- Energy Information Administration (EIA), Country Analysis Brief: Nigeria , 2016 at 5 ,<https://www.eia.gov/beta/international/analysis_includes/countries_long/Nigeria/nigeria.pdf accessed 20 December 2019.
- European Commission and FAO, ‘Experience of Implementing National Forest Programmes in Nigeria (2003)19 < <http://www.fao.org/3/ac918e/ac918e00.pdf> > Accessed 20th December 2019.

- Federal Republic of Nigeria, 2020 Appropriation 942- 971 (budget office of the federation federal republic of Nigeria available at [2019 Budget Analysis - Budget Office of the Federation - Federal Republic of Nigeria](#) > accessed 5th 2021.
- Food and Agriculture Organization of the United Nations (FAO), Impacts of Bioenergy on Food Security – guidance for assessment and response at national and Project levels (2012) 1-68 available at <<http://www.fao.org/3/a-i2599e.pdf> > accessed 12 September 2019.
- Friends of the Earth, Issue Brief: Green Bonds (2015) available at [green bonds fact sheet.pdf \(banktrack.org\)](#) > assessed 17th February 2021.
- George L, Nigeria pays \$14 million for fuel in June despite subsidy removal: NNPC (Reuter 2020) available at [Nigeria pays \\$14 million for fuel in June despite subsidy removal: NNPC | Reuters](#) > accessed 9th 2021.
- Global Action Programme on Education for Sustainable Development’ > <https://en.unesco.org/gap>> accessed 13th July 2019.
- Hazmat L, Great Green Wall: Key to Nigeria Greatness (2019) available at <https://www.connecteddevelopment.org/great-green-wall-key-to-nigerias-greatness/> > Accessed 21 June 2020.
- Iroanusi Q, Nigerian Senator introduces Bill to ban importation of Generator (Premium Times 2020) available at < [JUST IN: Nigeran Senator Introduces Bill To Ban Importation Of Generator \(premiumtimesng.com\)](#) > accessed 13 April 2021 .
- J Thwaites, 4 Climate Finance Priorities for the Biden Administration (World Resources Instiute 2021) available at < [Top 4 Climate Finance Priorities for the Biden Administration | World Resources Institute \(wri.org\)](#)> Accessed 15th September 2021.

- Jeremiah K, Nigerians pay N47.6b in four months for petrol ‘subsidy’(The Guardian 2020) available at <[Nigerians pay N47.6b in four months for petrol ‘subsidy’Nigeria — The Guardian Nigeria News – Nigeria and World News](#) > accessed 3rd 2021.
- Jones L, the changing role of NGOs in supporting climate services BRACED 2016) at page 1 available at (<https://www.odi.org/sites/odi.org.uk/files/resource-documents/10885.pdf>) > accessed 12th April 2021.
- Kartikeya S, India’s Coal Tax Is Key to Stabilizing Its Energy Transition (Centre for Strategic and International Studies 2021) available at [India’s Coal Tax Is Key to Stabilizing Its Energy Transition | Center for Strategic and International Studies \(csis.org\)](#) > accessed 29 April 2020.
- Maria Gallucci, Costa Rica ran almost entirely on renewable energy in 2016 (Mashable UK 2017) available at [Costa Rica ran almost entirely on renewable energy in 2016 \(mashable.com\)](#) > accessed 2ND April 2021.
- McGrath M, Climate change: US formally withdraws from Paris agreement (BBC NEWS) available at < [Climate change: US formally withdraws from Paris agreement - BBC News](#) > accessed 12 May 202.
- Mongabay News and Inspiraion from NATURE’S Frontline, Indonesia forest-clearing ban is made permanent, but labeled ‘propaganda’ (2019) available at [Indonesia forest-clearing ban is made permanent, but labeled ‘propaganda’ \(mongabay.com\)](#) > Accessed 15th September 2021.
- Multiple-Household Fuel Use-a Balanced Choice Between Firewood, Charcoal and LPG (Liquefied Petroleum Gas). GIZ. At 37. < [giz2014-0192en-household-cooking.pdf](#) > Accessed 22ND 2020
- National Bureau of Statistic, Federation Account Allocation Committee (FAAC) (February 2019 Disbursement) available at,

[https://www.nigerianstat.gov.ng/pdfuploads/Federation_Account_Allocation_Committee_\(FAAC\)_FEB_2019_Disbursement.pdf](https://www.nigerianstat.gov.ng/pdfuploads/Federation_Account_Allocation_Committee_(FAAC)_FEB_2019_Disbursement.pdf) > Accessed 12 March 2020.

- National Wind Coordinating Collaborative, Wind Turbine Interactions with Birds, Bats, and their Habitats: A Summary of Research Results and Priority Questions 2010, < https://www1.eere.energy.gov/wind/pdfs/birds_and_bats_fact_sheet.pdf> accessed 4th October 2019.
- Nigeria Climate Transparency Report Nigeria’s Climate Action and Responses to The Covid-19 Crisis (Climate Transparency 2020) 1 available at < [Nigeria-CT-2020.pdf \(climate-transparency.org\)](#)> accessed 31st 2021.
- Nigeria Investment Promotion Commission, Kaduna State to Develop 30MW Solar PV Plant’ available at < <https://nipc.gov.ng/2018/12/12/kaduna-state-to-develop-30mw-solar-pv-plant/> > Accessed 6th July 2020.
- NS Energy, Top 10 countries for clean energy capacity investment in 2019 available at <[Top 10 countries for clean energy capacity investment in 2019 \(nsenergybusiness.com\)](#) > Accessed 22 May 2021.
- Nwachukwu C, Bonga Oil Field Spill: FG fines Shell \$5bn , (Vanguard Newspaper 2012) available at < [BONGA OIL FIELD SPILL: FG fines Shell \\$5bn - Vanguard News \(vanguardngr.com\)](#) > accessed 4th March 202.
- Odogwu G, ‘Climate change and Fulani herdsmen-farmers’ clashes (Punch Newspaper 2018) > <http://punchng.com/climate-change-and-fulani-herdsmen-farmers-clashes/>> Accessed 12 March 2018.
- Odogwu G, ‘Climate change and Fulani herdsmen-farmers’ clashes (Punch Newspaper 2018) > <http://punchng.com/climate-change-and-fulani-herdsmen-farmers-clashes/>> Accessed 12 March 2018.

- Office for National Statistics United Kingdom available at < <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates> > Accessed 13 August 2020.
- Ojerinde D, 'How corruption crippled Nigeria's power sector –Report' (2019 punch Newspaper) available at < <https://punchng.com/how-corruption-crippled-nigerias-power-sector-report/> > Accessed 10th April 2020.
- Oke Y, 'Conflicting laws keep Nigeria's electricity supply unreliable' (2017) The Conversation available at <https://theconversation.com/conflicting-laws-keep-nigerias-electricity-supply-unreliable-81393> > Accessed 12th April 2020.
- Okeowo G, 'Nigeria's Petrol Subsidy Regime Dilemma of the world's most populous black nation (BudgIT 2019)' available at < http://fixouoil.com/wp-content/uploads/2019/03/Nigerias-Petrol-Subsidy-Regime_BudgIT.pdf > Accessed 11th March 2020.
- Okeowo G, 'Nigeria's Petrol Subsidy Regime Dilemma of the world's most populous black nation (BudgIT 2019)' available at < http://fixouoil.com/wp-content/uploads/2019/03/Nigerias-Petrol-Subsidy-Regime_BudgIT.pdf > Accessed 11th March 2020.
- Olurunbi R, 'Nigeria Fuel Subsidy Hits Nearly \$300 Million a Month, NNPC Says (Bloomberg 2021)' available at [Nigeria Fuel Subsidy Hits Nearly \\$300 Million a Month, NNPC Says - BNN Bloomberg](#) > accessed 4th 2021 .
- [Olushola F](#), 'Climate change projects aren't working because communities are left out' (The Conversation 2017)> <http://theconversation.com/climate-change-projects-arent-working-because-communities-are-left-out-71905>> accessed 10 July 2018.

- [Onyedikachukwu O](#) ‘Paying for our climate: Nigeria should do more on financing climate goals’ (The Nation Newspaper 2017) > <http://thenationonlineng.net/paying-climate-nigeria-financing-climate-goals/>> accessed 10 July 2018.
- Onyeji E, Analysis: Why Nigeria’s Vision 20:2020 was bound to fail (Premium Times 2020) available at < [ANALYSIS: Why Nigeria’s Vision 20:2020 was bound to fail \(premiumtimesng.com\)](#) > accessed April 4th 2021.
- Osea Brown A, Nigeria’s Costly Fuel Subsidies Back After Crude Price Spike (Bloomberg 2021) available at [Nigeria’s Costly Fuel Subsidies Back After Crude Price Spike - Bloomberg](#) > accessed 23 March 2021.
- Overseas Security Advisory Council, Nigeria 2020 Crime & Safety Report: Lagos available at <https://www.osac.gov/Country/Nigeria/Content/Detail/Report/b4c7348c-8cd8-4e1b-bf01-188e5b7ee9b9> . Accessed 23rd August 2020.
- Power Africa Fact Sheet’ available at < <https://www.usaid.gov/powerafrica/south-africa> > accessed 1st October 2019.
- Prather M J and Hsu J, ‘NF3, the greenhouse gas missing from Kyoto 2008 35(12) Geophysical Research Letters ; Glossary:Kyoto basket > https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Kyoto_basket> accessed 9th January 2019.
- Putting Rio Principle 10 Into Action an Implementation Guide (United Nations Environment Programme (UNEP 2015) > <https://wedocs.unep.org/bitstream/handle/20.500.11822/11201/UNEP%20MGSB-SGBS%20BALI%20GUIDELINES-Interactive.pdf?sequence=1&%3BisAllowed=y>> accessed 2nd July 2019.

- Pytel B, Climate Action Italy becomes the first country to require climate change studies in schools, (Climate Action 2019) available at <https://www.earthday.org/italy-first-country-climate-change-studies-in-schools/> > Accessed 5th July 2020.
- Readiness Proposal with the Climate Technology Centre and Network (CTCN) through UNIDO for Federal Republic of Nigeria 2019 | Strategic Frameworks <<https://www.greenclimate.fund/sites/default/files/document/readiness-proposals-nigeria-unido-ctcn-strategic-frameworks.pdf>> Accessed 20th April 2020.
- SDG 13: Climate action Take urgent action to combat climate change and its impacts > <https://dm.pwc.com/SDGSelector/Resources/13.pdf>> accessed December 2018.
- SDN, Spotlight Issue Nigeria’s Fuel Subsidy (2015) < available at <https://www.stakeholderdemocracy.org/wp-content/uploads/2015/09/SPOTLIGHT-ISSUE-NIGERIA’S-FUEL-SUBSIDY-HC.pdf>> Accessed 12 May 2019.
- Seyifunmi A, ‘Why President Buhari is yet to assent to Climate Change Bill’ (2018) The Sun News Paper <<https://www.sunnewsonline.com/why-president-buhari-is-yet-to-assent-to-climate-change-bill/>> Accessed 7th February 2018.
- Siddiqui S, The hidden impacts of solar India’, 2010 available at: <http://infochangeindia.org/environment/features/the-hidden-impacts-of-solar-india.html> > Accessed 8th November 2019.
- Social vulnerability to climate change in European cities – state of play in policy and practice ; < <https://sdg.iisd.org/news/publications-explore-intersections-among-sdg-13-and-sdgs-1-8-10-11/>> accessed 10th July 2019.
- Socio-Economic Rights and Accountability, From Darkness To Darkness (2017) at 3-5 available at <http://serap-nigeria.org/wp-content/uploads/2017/08/CORRUPTION-IN-ELECTRICITY-REPORT-A4.pdf> > Accessed 10th April 2020.

- Stakeholder Democracy Network, Electricity Sector Corruption Perception Index 2017: Promoting Accountability In Nigeria’s Electricity Sector (2018) pages 4-5 available at < <http://www.stakeholderdemocracy.org/wp-content/uploads/2018/04/BEDC-corruption-index.pdf> > Accessed 10th April 2020.
- Sustainable Energy for All Action, History available at < [History | Sustainable Energy for All \(seforall.org\)](https://seforall.org/history) > Accessed 27th February 2021.
- Tajne P, ‘The Dark Side of Renewable Energy: Negative Impacts of Renewables on the Environment’ < <https://www.altenergymag.com/article/2015/08/the-dark-side-of-renewable-energy-negative-impacts-of-renewables-on-the-environment/20963> > Accessed 5th October 2019.
- The Kyoto Protocol - Status of Ratification > <https://unfccc.int/process/the-kyoto-protocol/status-of-ratification> > accessed October 2, 2018.
- The Nation Newspaper, ‘EFCC begins probe of Obasanjo govt’s \$16bn power project’ (2019) available < <https://thenationonlineng.net/efcc-begins-probe-of-obasanjo-govts-16bn-power-project/> ; Accessed 10th April 2020.
- The State of The World’s Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 75 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.
- The State of The World’s Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 75 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.
- The World Bank, Managing Coal Mine Closure : Achieving a Just Transition for All (English) available at < <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/484541544643269894/managing-coal-mine-closure-achieving-a-just-transition-for-all> > Accessed 13th 2020. United Nations Frame Work

on ccc ‘status of ratification of the convention > <https://unfccc.int/process/the-convention/what-is-the-convention/status-of-ratification-of-the-convention> > accessed October 2 2018. OECD (2015), OECD Companion to the Inventory of Support Measures for Fossil Fuels 2015 available at [OECD Companion to the Inventory of Support Measures for Fossil Fuels 2015 | READ online \(oecd-ilibrary.org\)](https://oecd-ilibrary.org/publications/9b2b2b2b) > accessed 3rd 2021.

- The World Bank, Reforming Fossil Fuel Subsidies for a Cleaner Future. Available at <https://www.worldbank.org/en/news/feature/2017/11/21/reforming-fossil-fuel-subsidies-for-a-cleaner-future> > Accessed 14 August 2020.
- Timperley J, ‘Explainer: The challenge of defining fossil fuel subsidies’ (Carbon Brief 2017) available at < [Explainer: The challenge of defining fossil fuel subsidies | Carbon Brief](https://www.carbonbrief.org/explainer-the-challenge-of-defining-fossil-fuel-subsidies) > accessed 4th February 2021.
- Timperley J, Interactive: How climate finance ‘flows’ around the world (Carbon Brief) available at [Interactive: How climate finance ‘flows’ around the world | Carbon Brief](https://www.carbonbrief.org/interactive-how-climate-finance-flows-around-the-world) > Accessed 1st April 2021.
- Tukur S, ‘Buhari to Obasanjo: You have questions to answer over \$16bn power projects’ (2020 Premium Times) < <https://www.premiumtimesng.com/news/headlines/269323-buhari-to-obasanjo-you-have-questions-to-answer-over-16bn-power-projects.html> > Accessed 10th April 2020.
- United Nation Framework on climate Change, eHandbook > <https://unfccc.int/resource/bigpicture/#content-understanding-the-un-climate-change-regime> > accessed 2nd November 2018.
- United Nation Treaty Collection, available < https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=_en

- United Nations Climate Change ‘Article 6: Climate Education and Training’ <<https://unfccc.int/news/article-6-climate-education-and-training> > accessed 11th February 2019.
- United Nations Climate Change, United Nations Alliance of Climate Change: Education, training, and public awareness. Available at [United Nations Alliance of Climate Change: Education, training and public awareness | UNFCCC](#) > Accessed 15th September 2021.
- United Nations Framework on ccc ‘status of ratification of the convention <https://unfccc.int/process/the-convention/what-is-the-convention/status-of-ratification-of-the-convention> > accessed December 27, 2018.
- United States Agency for International Development (USAID) available < <https://www.usaid.gov/powerafrica/south-africa> > accessed 10th November 2019.
- US Energy Information Administration, Background Reference: Norway (EIA 2019) page 2 available at [Background Reference: Norway \(eia.gov\)](#) > Accessed 21 April 2021.
- Uwaeghulam C, ‘Group to review Nigeria’s climate change bill, environment regulations’ (Guardian Newspaper 2019) available at <https://guardian.ng/property/group-to-review-nigerias-climate-change-bill-environment-regulations/> > Accessed 20th August 2020.
- Vanguard Newspaper 2020, Laughable Bill to ban generators available at < [Laughable Bill to ban generators - Vanguard News \(vanguardngr.com\)](#) > accessed 17th April 2021.
- Vibhute K and Aynalem F, Legal Research Methods Teaching Material (2009 JLRI) 71<https://www.academia.edu/8221697/Legal_Research_Methodology> accessed 16 November 2018

- Vogt A, National Decarbonization Plan 2018- 2050 available at < [NationalDecarbonizationPlan.pdf \(unfccc.int\)](#) > accessed 6th April 2021.
- WBCSD, Forest Sector SDG Roadmap available page 12 https://docs.wbcsd.org/2019/07/WBCSD_Forest_Sector_SDG_Roadmap.pdf > Accessed 12 March 2020.
- Williams D, New Jersey is the first state to add climate change to its K-12 education standards, (CNN June 4 2020) available at< <https://edition.cnn.com/2020/06/04/us/new-jersey-climate-schools-scen-trnd/index.html> > Accessed 5th July 2020.
- World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigeria-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.
- World Rainforest Movement, Nigeria: A unique example of community based forest management at the Ekuri community (2013) Available at < <https://wrm.org.uy/articles-from-the-wrm-bulletin/section1/nigeria-a-unique-example-of-community-based-forest-management-at-the-ekuri-community/> > Accessed 7th January 2020.
- World Resources Institute, ‘Direct Access To Climate Finance: Lessons Learned By National Institutions’ (2015 Working Paper) at page 7-9 https://wriorg.s3.amazonaws.com/s3fs-public/22DIRECT_ACCESS_TO_CLIMATE_FINANCE_LESSONS_LEARNED_BY_NATIONAL_INSTITUTIONS.pdf > Accessed 21st March 2020.
- World Resources Institute, 3 New Ways to Explore Links Between Climate and Sustainable Development available at < <https://www.wri.org/blog/2017/12/3-new-ways-to-explore-links-between-climate-and-sustainable-development> >

[ways-explore-links-between-climate-and-sustainable-development](#) > Accessed 21st March 2020.

- World Resources Institute, 3 Ways to Help Developing Countries Get Direct Access to Climate Finance available at < <https://www.wri.org/blog/2015/12/3-ways-help-developing-countries-get-direct-access-climate-finance> > Accessed 21st March 2020.
- Stoddart H, A Pocket Guide to Sustainable Development Governance (Commonwealth Secretariat 2011) at available at [Guia-de-bolso-para-a-governanca-voltada-para-o-desenvolvimento-sustentavel-ingles.pdf \(blogdocancado.com\)](#) > accessed 10 May 2021.
- The State of The World's Forest, Forest Pathway to Sustainable Development, (Food and Agriculture Organization of the United Nation 2018) 100-107 available at < <http://www.fao.org/3/I9535EN/i9535en.pdf> > Accessed 2nd February 2020.
- Climate Change and SDG Synergy Conference, Background Paper Leveraging Climate Change and SDG Interlinkages: Country Experiences (TERI School of Advanced Studies for UN DESA 2019) available at < https://sustainabledevelopment.un.org/content/documents/22155Background_PaperTERILeveraging_Climate_Change_and_SDG_Interlinkages.pdf > Accessed 2nd April 2019.
- Food and Agriculture Organization of the United Nation, Climate-smart agriculture Sustainable Development Goals, Mapping interlinkages, synergies and trade-off s and guidelines for integrated implementation (Food and Agriculture Organization of the United Nations Rome, 2019) 84-101 available at< <http://www.fao.org/3/ca6043en/ca6043en.pdf> > Accessed 2nd February 2020.