Effective Implementation of Renewable Energy Legal Regime in Nigeria and Ghana: A Mitigator to Climate Change and Improvement of Power Supply

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Being a LLM Thesis Submitted to the Department of Private and Business Law, Faculty of Law, Lead City University, Ibadan, Oyo State, Nigeria

In Partial Fulfillment of the Requirements for the Award of Master of Laws Degree (LLM) in Private and Business Law

2022

Certification

This thesis entitled "Effective Implementation of Renewable Legal Regime in Nigeria and Ghana: A Mitigator to Climate Change and Improvement of Power Supply" was carried out by Matilda Adedoyin CHUKWUEMEKA with Matric No. LCU/PG/001502 in the Department of Private and Business Law, Faculty of Law, Lead City University, Ibadan, Oyo State, Nigeria under my supervision

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Dedication

This research work is dedicated to my husband, Mr. Abel Nnamdi CHUKWUEMEKA who has supported me through this academic journey.

Acknowledgement

I am profoundly thankful to the Almighty God for the physical, mental and financial ability to conclude this research.

In particular, my sincere gratitude goes to my supervisor, Dr. Dominic Akabuiro for his inestimable contributions, patience, advice and encouragement which translated into a major part of the success of this research. My words fail me to sufficiently appreciate him.

My sincere gratitude also goes to Dr. Oluyemisi Abimbola, Dean of the Faculty of Law, Lead City University, who took out time to read through this research and provided useful comments that improved its outcome.

It is my pleasure to acknowledge and thank the entire management of Lead City University for giving me the opportunity and approval to conduct this research.

To my lecturers, Dr. Mayowa Awosika, Dr. Temilorun Adenipekun, Dr. Simeon Ola Oni, Professor Supo Owoeye, Professor Omidire, and Dr. Ronke Adegbite, thank you for your constant availability, I appreciate you all for your intellectual contributions to this research.

To my colleagues, Mrs. Ibojo, Mr. Awotoye, Miss Akinwumi, Mr. Agbator and Mrs. Rowland, thank you all for your support during this academic pursuit.

A special appreciation goes to my husband Abel, who has sacrificed in many ways to permit the completion of this research. Thank you for your unwavering support, encouragement and for always believing in me.

Abstract

Energy is that which people cannot survive without in this modern era. Without energy, life can be so much difficult as it is significant for the survival of everything that is in the world around us in our contemporary lives. In Nigeria, fossil fuels have been the predominant sources of energy supply. Despite Nigeria being a major exporter of fossil fuels, Nigeria still suffers from poor energy supply. The utilization of these predominant energy sources have led to the emission of greenhouse gases and have adversely impacted the climate. There has been a rising demand worldwide for renewable sources of energy such as solar, hydro, wind, biomass, geothermal, wave and tidal energy to be included in the energy mix of nations which some consider being cheap and more environmentally friendly compared to the negative impacts of fossil fuels. Currently, Nigeria is yet to fully exploit the potentials of these renewable sources of energy. This research adopts the doctrinal and comparative methodology between Ghana and Nigeria Electricity Models. This research contends that the slow-moving development and utilization of renewable sources of energy into the Nigerian energy generation mix is a result of the unavailability of a legal framework on renewable energy sources in the current legislative system compared to Ghana. In conclusion, this research recommends strict implementation of a legal framework governing the development and utilization of renewable sources of energy, which will at the end of the day serve as improvement to energy supply and mitigation of climate change in Nigeria.

Keywords: Climate Change, Energy, Electricity, Fossil Fuels, Renewable Energy

Word Count: 260

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International Instruments

African Charter on Human and Peoples Rights, 1981

International Convention for the Prevention of Pollution from Ships (MARPOL), 1983

International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990

Montreal Protocol on Substances that Deplete the Ozone Layer (with annex), 1987

United Nations Charter, 1945

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United Nations Framework Convention on Climate Change (UNFCCC), 1992

Vienna Convention for the Protection of the Ozone Layer, 1985

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African Charter on Human and Peoples' Rights (Ratification and Enforcement) Act, 1983

Captive Energy Generation Regulations, 2008

Climate Change Act, 2021

Companies and Allied Matters Act, 2020

Constitution of the Federal Republic of Nigeria 1999 (as amended)

Electric Power Sector Reform Act, 2005

Environment Impact Assessment Act 1992

Evidence Act 2011

Ghana

Electricity Act, 1961

Electricity Commission Act, 1997

Electricity Corporation Decree of 1967

Electricity Regulation Act, 2006

Energy Commission Act 1997 (Act 514)

National Energy Regulator Act, 2004

Public Utilities Regulatory Commission Act 1997 (Act 538)

Renewable Energy (Amendment) Act, 2020 (Act 1045)

Renewable Energy Act, 2011 (Act 832)

List of Abbreviations

ADB	African Development Bank
AFD	Agence de Developpement
APL	All Power Labs
BEC	Biofuel Energy Commission
BPE	Bureau of Public Enterprises
BRA	Biofuel Research Agency
CCIAV	Climate Change Impacts, Adaptation and Vulnerability
CDM	Clean Development Mechanism
CEGR	Captive Energy Generation Regulations
CFCs	Chlorofluorocarbons
CH_4	Methane
CIA	Central Intelligence Agency
CO_2	Carbon Dioxide
COP26	United Nations Climate Change Conference
CRE	Committee on Rural Electrification
CTFs	Clean Technology Funds
DFID	Department for International Development
DMRE	Department of Mineral Resources and Energy
ECA	Energy Commission Act
ECG	Electricity Corporation of Ghana
ECN	Energy Commission of Nigeria
EE	Energy Efficiency
EEDC	Eko Electricity Distribution Company
EPA	Environmental Protection Agency Ghana

ESI	Environmental Sensitivity Index
ESKOM	Electricity Supply Commission
ESSDP	Energy Sector Strategy and Development Plan
ESPRA	Electric Power Sector Reform Act
FDI	Foreign Direct Investment
FEC	Federal Executive Council
FIT	Feed-in-Tariffs
GDP	Gross Domestic Product
GEC	Ghana Energy Commission
GEF	Global Environment Facility
GHGs	Greenhouse Gases
GNESDR	Global Network for Environment and Economic Development Research
GW	Gigawatts
GWh	Gigawatt Hours
GWP	Global Warming Potential
HBF	Heinrich Böll Foundation
HCFCs	Hydrochlorofluorocarbons
HFCs	Hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
IRENA	International Renewable Energy Agency
IRP	Integrated Resource Plan
KG	Kilogram
KM	Kilometre
KWh	Kilowatt Hour
LGA	Local Government Area

LNG	Liquefied Natural Gas
MDGs	Millennium Development Goals
MES	Midori Environmental Solutions
MPS	Ministry of Power and Steel
MTOE	Million Ton of Oil Equivalent
MW	Megawatts
MYTO	Multi-Year Tariff Order
N_2O	Nitrous Oxide
NABP	Nigerian Automotive Biomass Program.
NASPA	National Adaptation Strategy and Plan of Action
NASPA-CCN	National Adaptation Strategy and Plan of Action on Climate Change for Nigeria
NBPI	Nigerian Biofuels Policy and Incentives
NCCP	National Climate Change Policy
NCP	National Council on Privatization
NEEAP	National Energy Efficiency Action Plan
NEEDS	National Economic and Development Study
NEP	National Energy Policy
NEP	National Energy Policy
NEPA	National Electric Power Authority
NERC	Nigerian Electricity Regulatory Commission
NERI	National Environmental Research Institute
NERSA	National Energy Regulator
NESAT	Nigerian Environmental Study Action Team
NESI	Nigerian Electricity Supply Industry
NF_3	Nitrogen Trifluoride

NigeriaCAN	Nigeria Climate Action Network
NNPC	Nigerian National Petroleum Corporation
NREAP	National Renewable Energy Action Plan
NREEEP	Nigerian Renewable Energy and Energy Efficiency Policy
^{O}C	Degree Celsius
PACJA	Pan African Climate Justice Alliance
PFCs	Perfluorocarbons
PHCN	Power Holding Company of Nigeria
PJ	Petajoule
PPPs	Public Private Partnerships
PURC	Public Utilities Regulatory Commission
PV	Photovoltaic
RED	Renewable Energy Division
REEE	Renewable Energy and Energy Efficiency
REIPPPP	Renewable Energy Independent Power Producer Procurement Programme
REMP	Renewable Energy Master Plan
REP	Rural Electrification Policy
REPG	Renewable Electricity Policy Guideline
RESIP	Rural Electrification Strategy and Implementation Plan
RETF	Renewable Electricity Trust Fund
RMIPPPP	Risk Mitigation Independent Power Producers Procurement Programme
SACAU	South African Confederation of Agriculture Union
SADC	South Africa and the Democratic Republic of Congo
SCCU	Special Climate Change Unit
SE4ALL	Sustainable Energy for All

SF_6	Sulfur Hexafluoride
SNEP	Strategic National Energy Plan
SPDC	Shell Petroleum Development Company
TREIA	Texas Renewable Energy Industries Alliance
TSP	Transmission System Provider
TWH	Terawatt Hour
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNSCC	United Nations Summit on Climate Change
USEPA	United States Environmental Protection Agency
WCED	World Commission on Environment and Development

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