



ENUGU STATE OFF-GRID ELECTRIFICATION POLICY

*Reliable and sustainable electricity for improved livelihood and economic growth of
Ndi Enugu*

June 2024

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When I assumed office on the 29th of May, 2023, as the Executive Governor of Enugu State, I made a solemn pledge to Ndi Enugu: to devote every tissue of my flesh, the totality of my mind and spirit to the task of making Enugu the preferred destination for investment, business, tourism, and living in Nigeria. This pledge is not merely aspirational—it is backed by concrete plans, measurable targets, and unwavering political will.

You see, Ndi Enugu, we are in a hurry. We are in a hurry because your dreams cannot wait. We are in a hurry because the children in our rural communities deserve to study under electric bulbs, not kerosene lamps. We are in a hurry because our mothers in the villages deserve refrigerated medicines in their health centres. We are in a hurry because our farmers need solar-powered irrigation systems to feed not just Enugu, but Nigeria and beyond.

This Policy speaks to the heart of our eight-year development agenda which is anchored on three fundamental pillars: Peace and Security, Inclusive Economic Development, and Sustainable Prosperity for All. Central to achieving these objectives is the provision of reliable, affordable, and sustainable electricity to every corner of our state, particularly to our unserved and underserved communities where the majority of our people reside.

The Off-Grid Electrification Policy you now hold represents more than a policy document. It aligns perfectly with our bold target to grow Enugu State's GDP from \$4.4 billion to \$30 billion, whilst achieving zero per cent poverty by 2031. It is a blueprint for the future we are building together and embodies our determination to light up the dreams and aspirations of Ndi Enugu. Our rural communities, where agriculture thrives and entrepreneurship flourishes, cannot be left in darkness whilst we pursue economic growth. That is why we are committed to achieving 690MW of electricity generation with 20-hour power supply by 2030, and this off-grid strategy is integral to that vision. But more than numbers, this is about human dignity—ensuring that no Enugu citizen is left in darkness.

We understand that sustainable development requires sustainable energy solutions. Through distributed renewable energy, we are not only addressing our immediate electricity needs but also positioning Enugu State as a leader in Nigeria's energy transition journey. Our approach harnesses the abundant solar, wind, hydro, and biomass resources that God has blessed our state with, whilst creating jobs and building local capacity in the clean energy sector.

This policy prioritises gender equality and social inclusion because we believe that true development must leave no one behind. Women, young people, persons with disabilities, internally displaced persons, and other vulnerable groups will be at the centre of our off-grid electrification programmes. We are determined that electricity will be a catalyst for empowerment, not a privilege for the few.

Our administration has already established the Enugu State Electrification Agency, enacted the State Electricity Law, and set up the State Electrification Fund. We have created the enabling environment. Now, through this Policy, we invite all stakeholders—private sector players, development partners, federal institutions, and local communities—to join us in this transformative journey.

To our rural communities scattered across our 17 Local Government Areas and 260 wards, this Policy signals our unwavering commitment that geography will not determine your access to opportunities. To our healthcare workers, this means your life-saving work will no longer be hindered by power outages. To our teachers and students, this represents the foundation for the 260 smart schools we are building across our 260 wards for 21st-century education. To our farmers and entrepreneurs, this is the key to unlocking the full potential of our agricultural value chains and industrial clusters.

We are not just connecting communities to electricity; we are connecting dreams to reality, potential to prosperity, and vision to achievement. As we implement this policy, we remain guided by our core belief that government exists to serve the people and create the conditions for shared prosperity. I call upon all Ndi Enugu to accompany this administration in making this vision a reality. Pray for us. Support us. Hold us accountable.

The future of Enugu State is bright, and with this Off-Grid Electrification Policy, we are ensuring that future is also well-lit.

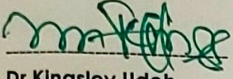
The future we promised is not coming—it is here. Tomorrow is indeed here!

May God help us. God bless Enugu State.

DR. PETER NDUBUISI MBAH
EXECUTIVE GOVERNOR
ENUGU STATE

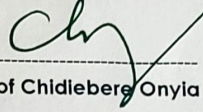
CERTIFICATION AND APPROVAL

This policy document was duly considered and approved by the Enugu State Executive Council at its meeting held on Friday, the 24th day of January, 2025, with Reference No: ENS/SSG/EXCO/S.41/11/21



Dr Kingsley Udeh

Attorney General and Commissioner for Justice



Prof Chidiebere Onyia

Secretary to the State Government

ABBREVIATIONS

DARES	Distributed Access through Renewable Energy Scale-up
DRE	Distributed Renewable Energy
EERC	Enugu State Electricity Regulatory Commission
ENSA-UHC	Enugu State Universal Health Coverage Agency
EPSRA	Electric Power Sector Reform Act
ESEA	Enugu State Electrification Agency
ES-MEMR	Enugu State Ministry of Energy and Mineral Resources
ETP	Energy Transition Plan
FCDO	Foreign Commonwealth Development Office
GESI	Gender Equality and Social Inclusion
IRP	Integrated Resource Plan
IDP	Internally Displaced Persons
KW	Kilo Watts
LGA	Local Government Area
MJ/m2-day	Megajoule per square per day
MDAs	Ministries, Departments, and Agencies
M&E	Monitoring and Evaluation
MSMEs	Micro, Small, and Medium Enterprises
MW	Mega Watt
NDC	Nationally Determined Contribution
NEP	Nigerian Electrification Project
NERC	Nigerian Electricity Regulatory Commission
NEMSA	Nigerian Electricity Management Services Agency
NESREA	National Environmental Standards Regulatory and Enforcement Agency
NEEAP	National Energy Efficiency Action Plan
NESP	Nigeria Energy Support Programme
NGO	Non-Governmental Organisation
NIPC	Nigerian Investment Promotion Commission

NPHCDA	National Primary Healthcare Development Agency
NREAP	National Renewable Energy Action Plan
NREEEP	National Renewable Energy and Energy Efficiency Policy
OGE	Off-Grid Electrification
PHC	Primary Health Centers
PUE	Productive Use Equipment
PWD	Persons with Disabilities
REA	Rural Electrification Agency
REF	Rural Electrification Fund
RESIP	Rural Electrification Strategy and Implementation
SAPZ	Special Agro-Industrial Processing Zones
SAS	Stand Alone Solar
SE4ALL AA	Sustainable Energy for All – Action Agenda
SEC	State Executive Council
SEP	State Electrification Plan
SES	Solar Energy Systems
SEZ	Skills Enhancement Zone
SHS	Solar Home Systems
SME	Small and Medium Enterprises
SON	Standards Organisation of Nigeria
USD	United States Dollars

The Executive Governor of Enugu State, in his manifesto, has put forward an eight-year plan which aims to make Enugu the preferred destination for investment, business, tourism and living in Nigeria. Building on three strategic objectives – Peace and Security; Inclusive Economic Development; and Sustainable Prosperity for all – it articulates the State Government's vision for the socio-economic development of the State and improvement in the economic livelihood and well-being of its citizens.

The provision of reliable and sustainable electricity through distributed clean energy resources is a key component of the State Government's development strategy. The State has developed the Enugu State Electricity Policy (2023), which aims to establish a competitive and commercially viable energy market that encourages private sector investment to improve the quantity and quality of energy supply in the state. It has also passed the Enugu State Electricity Law (2023) to ensure credible, value-driven, investment-promoting regulation by the State regulator and the establishment of key government institutions, such as the Enugu State Electrification Agency, to implement the state's electrification agenda.

Lighting up the unserved and underserved communities of Enugu State is the most important item of the Enugu State Electricity Policy, considering that most of the State's population live in such communities. The State Electricity Policy requires developing a specific strategy for serving underserved and underserved areas in the state. The strategy will focus on enhancing socio-economic activities and improving quality of life indices, especially for young persons, women and those living below the poverty line, enabling functional social (health and education) and public infrastructure.

In line with the Enugu State Electricity Policy, the State Electricity Law, and the Manifesto of the Executive Governor, the State Government has developed this Off-Grid Electrification (OGE) Policy to articulate its vision and provisions for reliable and sustainable electricity in the State especially to unserved and underserved areas. It recognizes the role of distributed renewable energy (DRE) in improving the quality of life of its citizens and boosting socio-economic growth in the state. The Off-Grid Electrification Policy will complement the State Electricity Policy. It will be supported by an OGE Strategy and Plan which will outline specific measures and steps to be taken in implementing the Policy in the short to long term.

Chapter One provides the background to the Policy describing its purpose, relevance, objective, and focus. It provides the Policy justification, describes its critical elements, and plans for its review and update.

Chapter Two describes the institutional framework for the Policy, and stakeholder coordination with the federal government, private sector, and development partners required for implementation.

Chapter Three describes the policy's provisions. This covers Targets and Timelines, financing, incentives, research and Capacity Building, Gender Equality and Social Inclusion, planning and Policy Implementation, including the plan for developing the OGE Strategy and Plan, Public Sensitisation and Awareness Creation, and Monitoring and evaluation.

Chapter Four describes the role of the OGE as a driver of socio-economic growth. It describes the utilization of OGE in driving key sectors of the State's economy beyond electrification including health; education, science, and technology; agriculture; industry and commerce; and social protection.

Chapter Five provides an overview of the institutional support for implementation. It describes the role of the relevant State government stakeholders in implementing the Policy and developing the OGE sector. The Enugu State Ministry of Energy and Mineral Resources (ES-MEMR) owns this policy document, while the State Electrification Agency has the mandate for its implementation in coordination with the ES-MEMR.

Chapter Six concludes and summarises the Policy, re-emphasizing its role in the development of the State.

This Policy was developed in line with the Enugu State Electricity Policy (2023), Enugu State Electricity Law (2023), Manifesto of the Executive Governor, and other relevant State Legislative documents and programmes to ensure an integrated and comprehensive approach towards off-grid electrification in the State. It also incorporates consultations with the state's key government and private sector stakeholders.

1. Off-Grid Electrification:

In the context of this Policy document, off-grid electrification refers to electricity generated from distributed renewable energy sources outside the centralised grid network. These clean or renewable energy sources include solar, wind, hydro, biomass, and other non-fossil sources.

Table 1: Typical Off-Grid Electrification (OGE) Solutions¹

OGE Category	OGE Type	Description	
Stand-Alone Solar (SAS)	Solar Home Systems (SHS)	SAS products with peak power ratings between 10W and 350W, and direct current voltage of 35V or less. Typically come with associated DC appliances such as bulbs, fans, and TVs.	
	Solar Energy Systems (SES)	SAS products with peak power ratings above 350W and below the capacity of mini grids.	
Mini-Grids	Isolated Mini-Grid	Mini grids installed in unserved areas with no connections to existing grid distribution networks. The Mini-grid could be powered by various energy sources: Solar, Mini-hydro, Wind, or biomass.	
	Interconnected Mini-Grids ²	Mini grids installed in underserved, but grid connected areas which utilise existing grid distribution infrastructure in delivering electricity to consumers.	

¹ Image Credit – 1- A4T Integrated SHS catalogue, 2- ESI Africa, 3- Renewable Energy World.

² Also known as "under-grid" mini-grids

1.1 Overview

The purpose of this Policy document is to set out the vision and goals of Enugu State in improving electrification through distributed renewable energy solutions, particularly for unserved and under-served communities in the state. This will lead to improved livelihoods and socio-economic development in the state, especially in unserved and underserved rural communities. It covers the purpose, objectives, policy focus, legislative and institutional framework, policy provisions, utilisation for economic growth, and stakeholder coordination for implementation. The overall thrust of this Policy is the optimal utilisation of distributed renewable energy (DRE) resources for improved electrification and sustainable development in Enugu State.

1.2 Background

- 1.2.1 The Executive Governor's Manifesto (2023-2030) aims to make Enugu the preferred destination for investment, business, tourism, and living, building on three strategic objectives: Peace and Security, inclusive economic development, and Sustainable Prosperity for All.
- 1.2.2 A key objective of the Manifesto is to increase the electrification rate in the State³ through the state's energy resources, including distributed renewable energy solutions. To this end, the State has developed an Electricity Policy (2023), which aims to establish a competitive and commercially viable energy market that encourages private sector investment to improve the quantity and quality of energy supply in the state.⁴ The State aims to generate 690MW with a 20-hour power supply by 2030. This will include a mix of on-grid and off-grid electrification options.
- 1.2.3 The Manifesto and the state Electricity Policy recognise the role of off-grid electrification as critical to the realisation of the state's electrification goals and the attainment of the objectives of the Manifesto across key sectors, including agriculture, health, education, science and technology, human capital development, social protection, environmental protection, and local manufacturing and assembly.
- 1.2.4 Inadequacy in power supply restricts socio-economic development and inclusive growth and adversely affects citizens' quality of life in urban and rural areas. Improved electricity supply results in improved quality of life and socio-economic development. Electricity is and will be a vital component of the socio-economic development of Enugu State.

1.3 Relevance

- 1.3.1 An OGE Policy for Enugu State is required to set out the State's vision and plan for OGE electrification and catalyze private sector investment. A few OGE projects have been implemented in the State by private actors and non-government organisations (NGOs), and there is a need to effectively coordinate these projects to align with the State Government's vision and targets for electrification and economic growth. Coordinated planning will improve targeted delivery of OGE in the State and enable effective monitoring and supervision.
- 1.3.2 An OGE Policy is thus required to provide the right incentives and enabling environment to improve electricity delivery in the state through distributed renewable energy. This OGE Policy will serve as a blueprint for sustainable development, supply, and utilisation of Distributed Renewable Energy

³ Dr Peter Ndubuisi Mbah (2023) Manifesto: Statement of Purpose

⁴ The Enugu State Electricity Policy (2023)

within Enugu State. The policy will assure private sector players and development partners looking to support the state on its rural electrification drive.

1.4 Focus

- 1.4.1 This Policy focuses on Off-Grid Electrification through renewable energy sources. The deployment of distributed renewable energy solutions for electrification in the state will be supported by an Integrated Resource Plan (IRP) to identify the ideal solutions best suited for the state.

1.5 Objectives

- 1.5.1 The overall objectives of this Policy are summarised as follows:
- a. To expand the State Government's plan as it relates to increased electricity access as articulated in the Enugu State Electricity Policy and Enugu State Electricity Law.
 - b. To promote the development and utilization of the state's distributed renewable energy resources to provide adequate, reliable, affordable, clean, and sustainable supply of electricity in the State, especially to rural areas in the seventeen (17) Local Government Areas (LGAs) of the State.
 - c. To accelerate the acquisition and diffusion of technology, human capacity expertise, and indigenous participation in the OGE sector and create jobs within the State.
 - d. To increase investment and development of OGE, with substantial private sector participation to drive economic empowerment.
 - e. To improve the State's economic sector by developing and deploying OGE resources.
 - f. To ensure effective coordination and collaboration among all stakeholders in OGE activities in the State.
 - g. To promote gender and social inclusion through OGE delivery in the State, especially for women, girls, PWDs, IDPs, and other vulnerable persons.
 - h. To reduce poverty and improve economic livelihoods in the State, especially among the poor and vulnerable, through productive use of electricity powered by OGE.

1.6 Critical Elements

- 1.6.1 Critical elements of this OGE Policy include:
- a. Targets and timelines for Off-Grid Electrification as set by the State.
 - b. Legislative and institutional framework for OGE implementation in the State.
 - c. Policy components include planning and delivery mechanisms, financing and incentives, education and research, capacity building, public sensitization and awareness training, monitoring and evaluation.
 - d. OGE utilization in driving the state's economic sectors, such as agriculture, health, and education.
 - e. Gender and social inclusion (GESI) in OGE delivery, and socio-economic empowerment for vulnerable groups in the State through OGE delivery.
 - f. Coordination mechanisms – Private Sector, Federal Government, Donor Organisations, and NGOs - for effective OGE delivery.

1.7 Review and Update

- 1.7.1 Periodic Policy reviews and updates are essential to ensure that the Policy continually aligns with the State Government's development agenda. The State Electricity Law mandates a review and re-publication of the State Electricity Policy by every five years from the date it comes into effect.

A review of this OGE Policy will be carried out at the same time as the review of the State Electricity Policy to ensure alignment.

2.1 Institutional Framework

The institutional framework for electrification in the State is as follows.

2.1.1 Legislation

- a. The Nigeria Electricity Act (2023) provides a holistic integrated policy plan that recognizes all sources for generating, transmitting, and distributing electricity, including integrating renewable energy into Nigeria's energy mix. The Act repealed the Electric Power Sector Reform Act (the "EPSRA"), the erstwhile principal legislation of the Nigerian electric power sector since 2005. The Act also recognizes federating states' electric sector lawmaking powers and identifies the borderline distinction between electricity supply and distribution.
- b. The Enugu State Electricity Law (2023) sets out the framework for the provision of electricity and its generation, transmission, and distribution within, and for the residents of Enugu state; the establishment of an electricity market for Enugu state and connected purposes. It established the Enugu State Electricity Regulatory Commission and the Enugu State Electrification Agency and repealed the Rural Electrification Board Law 1978.
- c. The Enugu State House of Assembly is the body charged by the extant provisions of the Constitution of the Federal Republic of Nigeria to make laws for the State covering all areas including electricity. The State House of Assembly has enacted the Enugu State Electricity Law (2023), which establishes the Enugu State Electricity Regulatory Commission and the Enugu State Electrification Agency, which will oversee the administration of the State Electrification Fund and execution of the State Electrification Strategy and Plan, using the Fund.

2.1.2 Policy & Regulation

The Enugu State Electricity Policy (2023) sets out the framework for establishing a competitive and commercially viable energy market, on-grid and off-grid, that encourages private sector investment to improve the quantity and quality of energy supply in the state.

2.1.3 Implementation

- a. The Enugu State Ministry of Energy and Mineral Resources is the focal state government institution responsible for the policy's ownership and review. The Ministry also oversees the State Electrification Agency.
- b. The Enugu State Electrification Agency, under the State Ministry for Energy and Mineral Resources, will be responsible for implementing this policy and the State OGE Strategy & Plan. The agency will develop the criteria for defining a community as "unserved" or "underserved" and identify and enumerate all communities in the State that fall within these definitions. It will develop and execute the State Electrification Plan (SEP), whose primary purpose will be the delivery of electricity access to the identified unserved and underserved areas of the State and the management of the State Electrification Fund in the implementation of the SEP.

2.2 Federal and State Government Coordination

2.2.1 The Federal Government of Nigeria has developed relevant energy access policy and regulatory documents for renewable energy inclusion in the national electrification mix:

- National Renewable Energy and Energy Efficiency Policy (NREEEP) 2015
- National Renewable Energy Action Plan (NREAP) 2016
- National Energy Efficiency Action Plan (NEEAP) 2016
- Rural Electrification Strategy and Implementation (RESIP) 2016
- Sustainable Energy for All – Action Agenda (SE4ALL AA) 2016

- Nigerian Electricity Regulatory Commission Regulation for Mini-Grids 2016 (updated 2023)
- Nationally Determined Contribution (NDC) (updated 2021)
- The Nigeria Energy Transition Plan (2021)
- The Climate Change Act (2021)

The Federal Government is also implementing several off-grid electrification initiatives, including the Nigeria Electrification Project (NEP), jointly funded by the World Bank and the African Development Bank, the Solar Power Naija Programme, funded by the Central Bank of Nigeria, and the Distributed Access through Renewable Energy Scale-up (DARES) project, funded by the World Bank.

Donor and development partners such as the UK Foreign Commonwealth and Development Office (FCDO), Shell Foundation, USAID Power Africa, GIZ, the World Bank, African Development Bank, and other partners have been providing grant funding and technical assistance for the development of the country's off-grid energy sector. The private sector has also made significant investments, primarily private-sector-led, with over USD 1 billion invested in the Nigerian off-grid sector between 2015 and now.

- 2.2.2 The State Government, through the Enugu State Electrification Agency, will coordinate with relevant federal government institutions, such as the Rural Electrification Agency (REA), donor partners, and the private sector, including investors, NGOs, and civil society, in implementing this Policy and delivering OGE in the State. It will also coordinate with the local government authorities in the state to ensure OGE delivery to rural communities.

The following are the key provisions of the State's OGE Policy.

3.1 Targets and Timelines:

- 3.1.1 The State government's OGE targets described below set the state on the roadmap towards achieving universal electrification by 2030.⁵

	2025	2027	2030
Share of unserved and underserved households served with OGE (%)	x	x	x
Share of public and social infrastructure served with OGE (%)	x	x	x
Share of agricultural clusters served with OGE (%)	x	x	x

- 3.1.2 The State OGE Strategy and Plan will define the State's OGE targets biennially in line with the targets in the Policy. It will establish measures for achieving these targets, the roles and responsibilities of government, private sector, and development partners, and modalities for Monitoring and Evaluation (M&E).
- 3.1.3 The OGE targets for the State have been developed to align with the broad electrification goals and targets of the State government for the State electricity market, specifically for off-grid electrification to unserved and underserved areas. They also align with the State's broader economic and social development goals and incorporate gender and social inclusion.

3.2 Financing:

Financing the implementation of the State Government's OGE plan and broad electrification agenda will require mobilising public and private sector sources of finance and deploying them through blended financing models that meet the sector's investment needs. This includes utilising public financing to unlock private sector financing and focusing on climate finance opportunities the state can tap into. The State Government recognises that mainstreaming climate action into its development plan presents opportunities to raise the funding required to support its bold economic programme, especially in the energy sector.

As mandated by the State Electricity Law (2023), the State will set up a State Electrification Fund (the "**Enugu State Electrification Fund**") to finance its electrification plan. It will be funded by a mix of public finance, including State budgetary allocations; private finance from institutional investors, donor and development institutions, multilateral finance institutions, and green and climate finance sources; and any other sources of finance as identified and designated by the state, including fines and levies.

The State will consider relevant private-public partnership models for OGE delivery in the State while ensuring gender and social inclusion. The Enugu State Electrification Fund may also provide, through its State OGE programmes, consumer financing for off-grid consumers and vulnerable groups to improve affordability and adoption of OGE products and result-based financing to OGE providers to scale delivery in the State. The State will partner with financial institutions, donor programmes, and other relevant stakeholders to support implementation.

⁵ The Enugu State Electricity Policy (2023)

3.3 Incentives

The State Government has an ambitious target to increase its Gross Domestic Product (GDP) sevenfold from \$4.4 billion in 2022 to \$30 billion by 2031. It aims to achieve this through targeted policy incentive schemes that enhance public-private investments in key growth-enabling sectors, including energy and natural resource development.⁶ It recognises the critical role of private sector investment in achieving its OGE targets, which will drive the attainment of its economic targets in critical growth-enabling sectors.

As such, the State will provide the required incentives and implement measures to improve the enabling environment to attract private sector investment for OGE. This will be led by the State Electrification Agency, working collaboratively with the Enugu State Investment Development Agency and other relevant state government institutions. The State Electrification Agency will also engage and liaise with relevant Federal Government institutions, such as the Nigerian Investment Promotion Commission (NIPC), to facilitate the provision of federal incentives to private sector actors where applicable.

Incentives to be provided by the State Government include:

- a. **Tax Exemptions:** The State will exempt eligible stakeholders from specific taxes/duties/fees payable to the State. The State will maintain a database of OGE providers and stakeholders for ease of data collation, provision of incentives where applicable, and monitoring and evaluation (M&E).
- b. **Guarantees:** The government may provide guarantees for OGE projects in the State to improve investor confidence, attract investment, and improve OGE sustainability in the State.
- c. **Access to Land & Infrastructure:** The State may provide or facilitate access to land or/and relevant infrastructure, such as a distribution network, to private investors in the OGE sector. The State government will take appropriate steps to simplify the procedure for acquiring land within the State where the purpose is for OGE development.
- d. **Waivers:** Charges such as application fees, Certificate of Occupancy fees and Ground rents may be wholly or partially waived for private sector investors to facilitate rapid development of the OGE sector.

The State Electrification Agency, in collaboration with the State Investment Promotion Agency, will regularly review the incentives provided for OGE and review or expand them.

3.4 Research and Capacity Building

Beyond the electricity and climate benefits of OGE, the state also recognises the vast potential in job creation, education and capacity building in the evolving green economy. Nigeria's Energy Transition Plan (ETP) projects significant net job creation with up to 340,000 jobs by 2030 and 840,000 jobs by 2060, driven mainly by the Power, Cooking and Transport sectors. The state aims to leverage its utilisation of DRE in building the relevant research capacity, skills, and expertise in the clean energy sector that will put it at the forefront of human capital in the clean energy sector nationally.

Thus, the State Government, through the State Electrification Agency, will:

1. Facilitate collaboration and partnerships between state research institutes and international research partners to build local expertise within the state's research institutes on clean energy.
2. Support students, researchers and lecturers/teachers with grants on OGE and related research areas.

⁶ Manifesto (Statement of Purpose) of the Executive Governor (2023)

3. Develop skills acquisition, mentoring, and other technical and non-technical programmes for renewable energy students. The government will integrate OGE skills and capacity building into the state's research and training institutes.

3.5 Gender Equality and Social Inclusion (GESI)

The State Government recognises the importance of gender equality and social inclusion (GESI) in its development agenda. The State Government's strategy is not to treat GESI as a stand-alone area of focus but to ensure the mainstreaming of GESI considerations across the entire economic plan, provisions and activities of the State Government. This includes the state's design and implementation of distributed renewable energy solutions. GESI is a key focal area for the State Government, especially as it aims to achieve zero per cent poverty in the state by 2031. OGE has been proven to have significant socio-economic benefits for women and vulnerable groups, who are most impacted by the lack of energy access.

The State will prioritise OGE delivery to women and vulnerable groups, including PWDs, IDPs, and other vulnerable persons in economically disadvantaged areas of the State. The deployment of distributed renewable energy solutions will align with the provisions of the *National Action Plan for Gender Mainstreaming in Energy Access* to ensure holistic GESI incorporation and consideration. The State, through the State Electrification Agency in collaboration with the Ministry of Human Services and Social Development and working with OGE providers/operators (as applicable), relevant MDAs, and other relevant stakeholders, will implement the following measures:

- a. Ensure that State OGE programmes and projects are developed with significant consideration given to GESI, thus targeting areas with a considerable GESI population. The Ministry of Human Services and Social Development will periodically review and set targets for GESI empowerment through OGE in the State.
- b. Ensure GESI balance in the State's MDAs tasked with OGE-related responsibilities.
- c. Create GESI sensitisation campaigns for OGE in the State.
- d. Ensure private sector actors and OGE developers working with the state government incorporate and demonstrate GESI considerations in their project staffing and solution design.
- e. Provide OGE financing to subsidise the cost of OGE delivery to GESI groups and the rural poor. Provide OGE empowerment programmes for artisans to build capacity and entrepreneurial skills on OGE, emphasizing GESI groups.

3.6 Planning and Policy Implementation:

- 3.6.1 The Enugu State Electrification Agency shall be responsible for the overall planning, development, monitoring, and implementation of this Policy and for coordinating with other relevant government stakeholder and activities where applicable. It shall be guided by the State OGE Strategy and Plan developed to complement the implementation of this Policy.
- 3.6.2 The Enugu State Electrification Agency will clearly assign responsibilities for implementing this Policy and OGE development in the State to relevant government and private sector stakeholders. This includes engagement and cooperation with local government authorities in rural OGE delivery.
- 3.6.3 The State Government will recognize and integrate OGE as a critical component of its integrated rural development plan and overall economic development plan. It will ensure that OGE is recognized as a key electrification component for the State's socio-economic growth.

3.7 Off-Grid Electrification (OGE) Strategy and Plan:

- 3.7.1 The Enugu State Government will develop a State Off-Grid Electrification Strategy and Plan to drive the implementation of this Policy. It will set out specific targets, measures, strategies, and steps for the State and key stakeholders to take in implementing the Policy and attaining its objectives.

3.7.2 The State OGE Strategy and Plan will:

- a. Define the State Government's short-, medium-, and long-term targets for Off-Grid Electrification.
- b. Map out areas, communities, and economic clusters best suited for OGE.
- c. Describe the nature of incentives provided to the private sector for OGE delivery in mapped-out areas and communities in the State.
- d. Define the roles and responsibilities of all key government institutions at all levels, the private sector, donor partners, and NGO stakeholders in implementing the OGE Policy and delivering OGE in the State.
- e. Describe measures for education, research, sensitisation, consumer protection, and capacity-building programmes for OGE in the State.
- f. Collaborate and coordinate with the relevant federal and state regulatory institutions in implementing regulatory provisions applicable to OGE in the State, such as product quality standards and e-waste.
- g. Integrate gender and social inclusion (GESI) in implementing the OGE Policy.

3.8 Public Sensitisation and Awareness Creation:

The State will develop a plan to undertake state-wide public sensitisation and education concerning its Off-Grid Electrification Policy, and OGE Strategy and Plan. The Public sensitisation campaigns will be premised on the fact that Off-Grid Electrification is environmentally friendly and catalyzes the delivery of other developmental outcomes. The sensitisation model to be used by the State Government will be community-based and inclusive. The State Government will set up a social mobilisation and social reorientation unit in the Ministry of Information for public sensitisation and education. This will be a veritable tool for mobilizing mass support for the Off-Grid Electrification Policy.

Activities to be undertaken will include:

- a. Digital media include radio and television sensitization programs, and non-digital media include newspapers, Law boards, and other relevant media.
- b. Product demonstration through roadshows and events and community-to-community campaigns in unserved and under-served areas, MSME clusters, and other public areas.
- c. Workshops and events on OGE tailored to the varying demographics of the population.
- d. Sensitisation through associations, cooperatives, and other consumer groups.

3.9 Monitoring and Evaluation (M&E):

- 3.9.1 The State, through the Enugu State Electrification Agency, will monitor & evaluate the implementation of the OGE Policy annually. A comprehensive M&E tool will be developed to State OGE Strategy & Plan to effectively monitor and evaluate this Policy and the State's OGE Strategy & Plan. The primary objective of the M&E is to institutionalise a results-oriented approach to governance by defining realistic outcomes, monitoring, and reporting progress towards achieving verifiable results.

CHAPTER FOUR: ELECTRICITY FOR ECONOMIC GROWTH

4.0 **Introduction**

This section highlights the critical role of OGE in the state's socio-economic and development agenda and describes strategies the state will explore to utilize it across these key sectors.

The Executive Governor's Manifesto (2023 – 2031) underscores the importance of renewable energy electrification in the state as critical to the attainment of its economic and developmental vision. According to the manifesto, the State Government will *harness available resources to electrify the state, create jobs for youth and women while growing the state's GDP by mobilising investments to develop our energy, natural and mineral resources across the state. It will develop renewable energy solutions in key universities, colleges, hospitals, health centres, key public institutions and environs. In implementing this, the State Government will explore avenues to mobilise climate finance for its energy transition plans.*

"...Yet a significant proportion of the state's population have no access to electricity. Universities, colleges of Education, Secondary Schools, Primary Schools, and hospitals operate without power most of the time. Small and medium sale enterprises spend a significant proportion of their revenue in buying diesel for generators just to keep their small businesses running. Thousands of our women and children die every year from respiratory diseases caused by indoor air pollution as they cook food with charcoal for their families. This must change..."

Barr. Peter Mbah, Executive Governor, Enugu State

4.1 **Livelihood**

4.1.1 **Objective**

Improving livelihoods and catalysing socio-economic growth, especially in unserved and underserved rural communities through off-grid electrification.

A key target of the State Government's economic development plan is to achieve a zero per cent rate in the poverty headcount index by 2031 through government-enabled private-sector investment. The State government recognises that achieving this is almost impossible without reliable and affordable electricity access to rural livelihoods and catalysing rural economies.

This is why the government has made the electrification of unserved and underserved communities of Enugu State the single most important item in the Enugu State Electricity Policy, considering that most of the State's population live in such communities. The state government's integrated rural development programmes include providing distributed renewable energy solutions for improving rural livelihoods and unlocking rural economic opportunities.

4.1.2 **Strategies**

- a. Developing off-grid electrification programmes and initiatives to deploy distributed renewable energy solutions in unserved and underserved communities across the State to electrify households and stimulate rural economic activities and opportunities.
- b. Provision of targeted subsidies where required to enable low-income and vulnerable households and rural businesses to access distributed renewable energy solutions.
- c. Provision of incentives to attract private sector OGE investment for the electrification of unserved and underserved communities, as well as rural economic clusters.
- d. Collaboration with development partners, NGOs, and private sector actors in designing and integrating OGE in development programmes and initiatives in the state.

4.2 Healthcare

4.2.1 Objective

Enabling the provision of modern healthcare services and attainment of the State Government's healthcare targets through reliable DRE solutions and improving the resilience of healthcare facilities in the state.

The State Government's healthcare ambitions are twofold – providing modern healthcare services to all state citizens and making the State a hub for medical tourism. Plans under this vision include reactivating community healthcare centres to provide functional primary healthcare services and revamping the network of secondary healthcare facilities across the state to modern standards. The state also aims to provide innovative, modern equipment and technologies for diagnostic and basic treatment management and complex healthcare procedures. Already the State has recorded significant success in its free maternity health and childcare programmes.^{7 8} The Enugu State Health Sector Reform Law (2017) aims to ensure the delivery of modern healthcare provision in the state including the establishment of the Enugu State Universal Health Coverage Agency (ENSA-UHC) in 2018 to promote, regulate, supervise and ensure effective administration of a universal health coverage scheme for residents of Enugu State.

The provision of reliable electricity is the foundation for modern healthcare services in the state. According to the 2022 State of Primary Healthcare in Nigeria Report, only 52% of primary health centres (PHCs) in the state are grid-connected.⁹ This shows that almost half of all PHCs in the state are unelectrified, whilst even the grid-connected PHCs, predominantly in rural areas, suffer from unreliable power supply from the grid. The vulnerability of health facilities in the state to unreliable grid supply and the high costs of providing alternative power through generators means that even basic healthcare provision is limited. Thus, OGE solutions are critical to providing modern healthcare services and attaining the state's health targets.

4.2.2 Strategies

- a. Incorporate healthcare electrification into the State's OGE programmes and initiatives and health sector plans. This includes integrating DRE as a key component of planned or ongoing health projects such as rehabilitating health facilities or building new facilities.
- b. Collaboration with development partners, NGOs, and private sector actors is needed to integrate OGE in the state's ongoing and planned healthcare programmes and initiatives.
- c. Developing Public-Private Partnerships and models with the private sector to attract relevant investment for healthcare electrification in the state.
- d. Coordination between Enugu State Electrification Agency, the State Ministry of Health, ENSA-UHC, and the National Primary Healthcare Development Agency (NPHCDA) on healthcare electrification in the state. This also includes providing stand-alone solar-powered healthcare equipment, such as vaccine storage for rural PHCs. This also includes leveraging the State Electrification Fund and the Basic Healthcare Provision Fund to finance healthcare electrification through distributed renewable energy in the State.

4.3 Education, Science, and Technology

4.3.1 Objective

Ensuring reliable and resilient electricity access for academic institutions in the state to improve the quality of education, especially in research, science and ICT.

The State Government views education as a pivotal tool for human capital development in the state and long-term poverty eradication. Among the government's plans for education include establishing specialised higher institutions in the state, designing courses and curricula in line with

⁷ Manifesto (Statement of Purpose) of the Executive Governor (2023)

⁸ [The State of Primary Healthcare in Nigeria Report \(2022\)](#)

⁹ [The State of Primary Healthcare in Nigeria Report \(2022\)](#)

modern realities and global trends, and building and equipping academic institutions as well as public libraries, community resource centres and adult literacy centres. In particular, the State Government plans to build 260 smart schools across the 260 wards of the State to provide modern learning environment for students, including the provision of internet systems, modern ICT centres, science laboratories, multimedia and technology laboratories, and tablets. The State also plans to prioritise funding for the education sector up to 30% of its capital budget.

The provision of reliable electricity is a key requirement in meeting the government's plans for the provision of modern education facilities. It will be impossible to provide smart schools, ICT, and technology innovation without reliable electricity. In addition, beyond the provision of this electricity through OGE solutions, the renewable energy sector is a niche and high-interest area of specialized education especially with increasing global focus on climate change and the transition to cleaner energy sources. Thus, the need for the state to invest in developing and localizing the human capital expertise and skills in the clean energy industry and being a pioneer state for clean energy development in the country and continent.

4.3.2 Strategies

- a. Incorporate the electrification of schools, academic institutions and facilities in the state under the state's off-grid electrification programmes and initiatives. Develop Public-Private Partnerships and models for investing in OGE for academic institutions and facilities in the state.
- b. Collaboration with development partners, NGOs, and private sector actors in integrating Distributed Renewable Energy in ongoing and planned education programmes and initiatives in the state.
- c. Encouraging and funding research, course design, and skills development in renewable energy, climate change, and related sustainability programmes that can position the state as a leader driving climate transition in the country and on the continent.
- d. Coordination between the Enugu State Electrification Agency, the State Ministry of Education, ENSA-UHC, and relevant agencies in the state such as the Post Primary Schools Management Board (PPSMB) in electrifying schools and academic institutions in the state through OGE.

4.4 Agriculture

4.4.1 Objective

Improvement of the end-to-end agriculture value chain in the state through DRE-powered productive use activities for increased food productivity, value addition, and economic empowerment.

The State Government's objective for the agriculture sector is to "Feed Enugu State and turn the State into a food basket for Nigeria and a hub for the export of cash crops." The state targets eliminating food insecurity by 2031. Part of its strategy for achieving this includes focusing on agro-allied industrialization in rural communities and villages. Its strategies include the establishment of Special Agro-Industrial Processing Zones (SAPZs) in each senatorial zone of the state that will include catchment power sources and integrated rural infrastructure.

Electricity is critical across the value chain of the agriculture sector in the state - from the provision of irrigation water pumps during cultivation to the provision of cold rooms and dryers for storage and preservation to electric-powered machinery for processing such as grilling and milling, to electric-powered machinery for packaging and value-added services, to cold storage vans for preservation during transportation for perishable produce. The establishment of SAPZ and agro clusters in the state will require the provision of reliable and adequate electricity to meet the objectives and targets of the Government for the agriculture sector. Distributed Renewable Energy provides the ideal electrification solution for this.

4.4.2 Strategies

- a. Integrate the electrification of SAPZ, agro clusters, and other agriculture-related centres under the state's OGE programmes and initiatives. This includes the design and deployment of rural Distributed Renewable Energy solutions to power agricultural productive activities in rural communities, especially agrarian communities.
- b. Explore Public-Private Partnerships with the private sector to deploy Distributed Renewable Energy solutions for agricultural development in the state. This includes PPPs with dedicated OGE developers to deploy niche distributed renewable energy solutions and business models for SAPZ and agro clusters in the state and incorporating OGE as a key component of planned PPPs in agriculture in the state.
- c. Collaboration with donor partners and programmes to deliver stand-alone solar-powered productive use appliances such as solar water pumps, solar cold rooms, solar processors and grinders, and other OGE productive use appliances for agricultural activities in the State.

4.6 Industry and Commerce

4.6.1 Objective

The utilization of distributed renewable energy solutions to catalyse commerce and industry in the state across micro, small, medium and large scales, and establish Enugu State as an economic hub for the country. This includes investing in and promoting the state's local manufacture and assembly of clean energy technologies, boosting job creation and economic activities.

The State Government, under its developmental plan, will implement policy incentives to catalyse government-enabled private sector development at small, medium, and large scales in all the priority sectors of comparative advantages in each senatorial zone. In addition to setting up Special Economic Zones and Industrial Parks, the State plans to establish innovation incubators in key sectors including energy, skills enhancement and apprenticeship programmes including Skills Enhancement Zones (SEZs), and venture capital development programmes.

4.6.2 Strategies

- a. Prioritising Distributed Renewable Energy deployment through PPPs with private sector actors to power commercial and industrial activities in the state including SEZs, Industrial parks, Innovation incubators, and other commercial clusters and markets in the state.
- b. Provision of incentives to encourage private sector investment in the State in Distributed Renewable Energy assembly and manufacturing through the SEZs and industrial parks. Such incentives may include but not be limited to tax exemptions and land provision for such facilities.

4.7 Social Protection

4.7.1 Objective

Ensure Gender Equality and Social Inclusion (GESI) in OGE delivery in the State and the use of OGE to provide empowerment opportunities for women and vulnerable groups in the State.

4.7.2 Strategies

- a. The Enugu State Electrification Agency, in collaboration with relevant government institutions in the state, including the Ministry of Women Affairs and other social agencies, identifies and provides subsidized OGE solutions to women and vulnerable persons in the state.
- b. OGE delivery to GESI groups and vulnerable households in the State can be implemented through,
 - i. Targeted State OGE programmes subsidising the cost of Distributed Renewable Energy solution delivery products to vulnerable households and GESI groups in the State.
 - ii. Inclusion of OGE into the state government's social protection and poverty alleviation programmes such as cash vouchers will support the adoption of distributed renewable energy solutions in the state for GESI and vulnerable households who are unable to afford them.
- c. Collaboration with donor partners, programmes, and NGOs in OGE delivery for GESI groups and vulnerable households in the State.

Introduction:

The key institutions in Enugu and their roles in the implementation of this OGE Policy are:

5.1 The Enugu State Government:

The three arms of Government in the State will provide a platform for the coordination of policies by the Executive and the making of laws by the Legislature. The Judiciary will continue to play its established role in interpreting relevant laws and resolving disputes involving market participants that are properly brought before it. The Judiciary will also exercise jurisdiction in adjudicating all cases of electricity theft, malpractice and other criminal matters under the enabling Laws.

5.2 The Enugu State Ministry of Energy and Mineral Resources:

The Enugu State Ministry of Energy and Mineral Resources oversees all aspects of policy development in all aspects of electricity and energy access. The ministry is responsible for creating an enabling environment that encourages private sector investment in the off-grid sector in the state.

5.3 Enugu State Electricity Regulatory Commission.

The EERC is the overall regulatory agency saddled with the mandate of providing a stable legal and commercial, and technical regulatory framework for the provision of electricity in Enugu state. Its oversight includes establishing a credible, transparent framework for licensing all operators, including off-grid operators in the state. The Commission is also tasked with the responsibility of protecting the rights of electricity customers in the state. More importantly, it is also responsible for establishing a consistent and sustainable framework for tariff determination.

1. Provide a stable legal, commercial and technical regulatory framework for providing electricity to residents of the State by market participants licensed to operate in the Enugu State Electricity Market for the benefit of residents of the State.
2. Establish a credible, transparent, and simple framework for licensing operators in the Market.
3. Establish engineering rules, codes, and practices to ensure the safe and reliable operation of the Market by its licensees and uphold the rights of electricity customers in the State.
4. Establish a consistent and sustainable tariff and pricing framework for the Market using appropriate tariff methodologies.
5. Undertake monitoring and surveillance of licensees and consumer behaviour in the Market.
6. Undertake such other activities as are necessary or convenient for better carrying out or giving effect to the objects of the Commission.

5.4 Enugu State Electrification Agency (ESEA)

Enugu State Electrification Agency is empowered by the State Electricity Law as the focal agency for preparing and implementing the State Electricity Plan. It has the mandate to use the State Electrification Fund to achieve the state electrification objectives and coordinate with relevant government, private, and development partners to actualize its goals.

The Agency is responsible for administering the State Electrification Fund and using the fund to drive the full execution of the State Electrification Strategy and Plan. The Agency sets the criteria for determining the electrification status of the communities and prepares and implements an electrification strategy and plan to provide reliable electricity supply to residents in unserved and underserved areas.

5.5 Coordination between Government, Private Sector, and Development Partners

In implementing the State Off-Grid Electrification Policy, the State Electrification Agency will coordinate with Federal, State, and Local Government institutions and stakeholders.

At the State and local government level, these may include but are not limited to;

1. State Ministries of Finance; Environment and Climate; Justice; Water Resources, Agriculture; Works; Transport; Trade, Human Capital Development and Poverty Alleviation, Investment and Industry, Science & Technology; Health; Education; Local Government, Rural Development & Chieftaincy Affairs; Information; Special Duties; Children, Gender Affairs and Social Development, Culture and Tourism, and Housing. Others may include relevant agencies and parastatals such as the Enugu State Planning & Budget Commission, Enugu Geographic Information Service, Enugu State Investment Promotion Agency, Enugu State Waste Management Authority, Enugu State Rural Water and Sanitation Agency, and Enugu State Internal Revenue Service.
2. Local Government Authorities to:
 - a. Develop an exhaustive list of unserved and under-served areas within the State eligible for Off-grid electrification and undertake a full energy audit of these areas
 - b. Secure consent of stakeholders such as traditional rulers to ensure community ownership. This is essential to guarantee the sustainability of the State's Off-Grid Electrification projects.

At the Federal Government level, these may include but not limited to;

1. The Federal Ministry of Power
2. The Rural Electrification Agency (REA)
3. Nigerian Electricity Regulatory Commission
4. Nigerian Electricity Management Services Agency (NEMSA)
5. The Standards Organization of Nigeria (SON)
6. Energy Commission of Nigeria
7. National Council for Climate Change
8. Federal Ministry of Environment, and National Environmental Standards Regulatory and Enforcement Agency (NESREA).

The State Electrification Agency will lead and coordinate activities with all relevant federal, State, and local ministries, departments, or agencies (MDAs) in implementing Enugu's Off-Grid Electrification Policy.

This OGE Policy is formulated to drive the agenda of the State Government as it relates to energy access through off-grid electrification. The Policy provides the State's vision and objectives for Off-Grid Electrification in Enugu State. An OGE Strategy and Plan will be developed to support the effective and sustainable implementation of this Policy in the short, medium, and long term to attain the OGE Policy objectives. The Enugu State Government recognises that the successful implementation of this Policy depends on its ability to apply its political will resolutely and consistently to attract support and investment from key public and private sector stakeholders in and outside Enugu State.