



JIGAWA STATE OFF-GRID SOLAR (OGS) POLICY

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FOREWARD

The availability of quality and affordable electricity is crucial to the socio-economic development of Jigawa State. Jigawa has historically struggled to meet the electricity needs of its citizens through the national grid with a major percentage of the State's population not connected to the grid. Power is a priority to the government which has continuously explored means of improving electricity supply in the state especially in off-grid areas. This has resulted in the development of this State Off-Grid Solar (OGS) Policy to increase electrification in un-served and under-served areas through OGS solutions which are clean and reliable sources of electricity. This will expand the State's electricity mix and utilisation of its energy resources to improve electrification and economic growth.

Preparation of this Off-Grid Solar Policy for Jigawa State was an all-inclusive process involving Government Ministries, Departments and Agencies; Development Partners; Private Sector, and Civil Society before its approval by the State Executive Council. It has been developed to articulate the vision and goals of the State to ensure the provision of reliable and sustainable electricity in the State through OGS over the short, medium, and long term. Ultimately the aim of the State is to increase electrification through OGS for improved livelihoods and socio-economic development. It also aligns with the Government's Comprehensive Development Framework II (CDFII) which sets out our vision and plans for the development of the state across all sectors.

On behalf of the State Government, I sincerely thank the UK Government Foreign, Commonwealth and Development Office (FCDO) who through its Africa Clean Energy Technical Assistance Facility (ACE TAF) supported the development of this Policy for Jigawa State. The UK Government has been a strong development partner to Jigawa State, and this affirms its commitment to the state under the Mutual Accountability Framework (MAF) Agreement with the State government.

I thank specially the various ministries and agencies of the State Government that collaborated to ensure the development of this Policy, and also thank the private sector for their support. I have no doubt that the Jigawa State OGS Policy and OGS Action Plan will support in achieving Jigawa State's electricity goals contained in the Jigawa State Comprehensive Development Framework.

Thank you.

Alhaji Muhammad Badaru Abubakar, MON, Mni

Executive Governor

8th March, 2022

ABBREVIATIONS

ACE TAF	Africa Clean Energy Technical Assistance Facility
ATL	Above the Line
BTL	Below the Line
CDF II	Jigawa State Comprehensive Development Framework II
GESI	Gender Equality and Social Inclusion
IRP	Integrated Resource Plan
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 (updated 2021)
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, 2016
NESP	Giz Nigeria Energy Support Programme
NGO	Non-Governmental Organisation
NREAP	National Renewable Energy Action Plan, 2016
NREEEP	National Renewable Energy and Energy Efficiency Policy, 2015
OGS	Off-Grid Solar

PHC	Primary Health Centres
PUE	Productive Use Equipment
PV	Photovoltaic
PWD	Persons with disabilities
REA	Rural Electrification Agency
RESIP	Rural Electrification Strategy and Implementation, 2016
SAS	Stand Alone Solar
SE4ALL AA	Sustainable Energy for All – Action Agenda, 2016
SEC	State Executive Council
SELF	Solar Electric Light Fund
SHS	Solar Home Systems
SES	Solar Energy Systems
SME	Small and Medium Enterprises
S.O.C.U	State Operations Coordination Unit
SON	Standards Organisation of Nigeria
USAID	United States Agency for International Development
USD	United States Dollars
V	Volts
W	Watts

EXECUTIVE SUMMARY

Jigawa State Government through its Comprehensive Development Framework II (CDFII) has articulated the State's vision for the growth and socio-economic development of the state towards improving the economic livelihood and well-being of its citizens. The provision of reliable and sustainable electricity is one of the key components of the CDFII with off-grid electrification identified as a means by which the State will increase electricity generation. This Off-Grid Solar (OGS) Policy has been developed to articulate the vision and goals of the State to ensure the provision of reliable and sustainable electricity in the State through OGS.

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

Chapter Two describes the constitutional and institutional framework for the policy, and stakeholder coordination with the federal government, local government and private sector for its effective implementation.

Chapter Three describes the provisions of the OGS policy. This covers OGS Targets and Timelines; Financing; Incentives; Education, Research, and Capacity Building; Gender Equality and Social Inclusion; Planning and Policy Implementation inclusive of plan for the development of the OGS Action Plan, Public Sensitisation and Awareness Creation, and Monitoring & Evaluation.

Chapter Four describes the role of the policy as a driver of socio-economic growth. It describes the utilisation of OGS in driving key sectors of the State's economy beyond electrification including health; education, science and technology; agriculture; environment; local manufacturing and assembly; and social protection.

Chapter Five provides an overview of the institutional support for implementation. It describes the role of relevant state government stakeholders in the implementation of the policy and development of the OGS sector. The Ministry of Works and Transport is the focal state government institution responsible for this policy's ownership, while driving the coordination with other state and federal government MDAs and the private sector for the effective implementation of this policy.

Chapter Six concludes and summarises the policy highlighting its importance for the development of the State.

This Policy was developed in line with the Jigawa State Comprehensive Development Framework II and relevant State policies, legislations, and programmes to ensure an integrated and comprehensive approach towards off-grid solar electrification in the State for socio-economic growth. It also incorporates Gender and Social Inclusion.

The following State Government Institutions formed part of the Technical Committee for the development, review, and approval of this Policy.

	Government Institution	Committee Role
1	Deputy Governor	Chairman
2	Jigawa State Investment Promotion Agency	Secretary /Coordinator
3	Alternative Energy Agency	Member
4	Ministry of Works and Transport	Member
5	Ministry for Local Government and Community Development	Member
6	Ministry of Information, Youth, Sport and Culture	Member
7	Ministry of Land, Housing, Urban Development and Regional Planning	Member
8	Rural Electrification Board	Member
9	Ministry of Agriculture and Natural Resources	Member
10	Ministry of Water Resources	Member
11	Budget & Economic Planning Directorate	Member
12	Ministry of Women Affairs and Social Development	Member
13	Ministry of Health	Member
14	Ministry of Commerce, Industries, Cooperatives and Tourism	Member

DEFINITION OF OFF-GRID SOLAR (OGS)

Off-Grid Solar (OGS) in the context of this policy document refers to clean, renewable, decentralized, solar solutions utilised for electrification purposes in un-served (off-grid) or under-served areas especially last mile communities, ranging from a minimum of 10W to 1MW solutions. See description in Table 1 below.

Table 1: Off-Grid Solar Solutions

OGS Category	OGS 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.
	Solar Energy Systems (SES)	SAS products with peak power ratings above 350W and below the capacity of mini grids (typically below 10kW).
Solar Mini-Grids	Isolated Solar Mini-Grids ¹	Mini grids installed in unserved areas with no connections to existing grid distribution networks.
	Interconnected Solar Mini-Grids ²	Mini grids installed in grid connected areas which utilise existing grid distribution infrastructure in delivering electricity to consumers.
OGS Appliances and Equipment	Productive Use Equipment (PUE)	OGS powered appliances such as solar water pumps, cold rooms, solar dryers, solar power milling, grinding machines, solar refrigerators, and other solar powered appliances used for economic purposes.
	Social Use Solutions	Stand-alone solar powered solutions such as solar powered water boreholes and solar streetlights used to provide basic social amenities.

¹ Mini-grids are defined by the NERC Regulation for Mini-Grids (2016), Section 3, as “any electricity supply system with its own power generation capacity, supplying electricity to more than one customer and which can operate in isolation from or be connected to a distribution licensee’s network. Within this regulation, the term mini-grid is used for any isolated or interconnected mini-grid generating between 0kW and 1MW of generation capacity.”

² Also known as “under-grid” mini-grids

1.1 Overview

This policy document sets out the vision and goals of Jigawa State towards improving rural electrification in the state through off-grid solar particularly for unserved and under-served areas in the State leading to improved livelihoods and socio-economic development. It covers the purpose, objectives, and focus of the policy, legislative and institutional framework, policy provisions, stakeholder coordination strategies for implementation and acts as a catalyst for economic growth. The overall thrust of this policy is the optimal utilisation of Off-Grid Solar for improved electrification and sustainable development within Jigawa State.

1.2 Background

1.2.1 The Jigawa State Government has developed its Comprehensive Development Framework II (CDFII) which sets out the vision of the State and its strategic objective which is to “sustainably secure the socio-economic well-being of the people”. This will be achieved through the pursuit of policies that guarantee economic growth and ensure sustained progress in the improvement of basic human development indicators. This also involves addressing critical areas of human development and opening new frontiers for inclusive economic growth.

1.2.2 A key component of the CDFII includes increasing household access to electricity from the current estimate of 30% to 60% by 2020.³ In seeking to achieve this set goal, the CDF II had a target to generate 30MW of power in the State through renewable energy including solar by 2020. Key strategies in the CDFII specific to OGS include,

1.2.2.1 The facilitation of bulk-power generation by providing an enabling environment for private sector investment. This would also include partnerships with private investors to generate bulk power using renewable energy sources for which the State has comparative advantage, such as solar, wind, bio-diesel and biomass. In addition, this would entail the provision of incentives like free land and tax waivers to potential investors in renewable energy as are available in other sectors;

1.2.2.2 Continued, but limited, provision of rural electrification as 'social service' to the citizens. Where opportunities exist, government would explore partnership and support from the Federal Rural Electrification Agency (REA) and Local Government Councils in funding rural electrification projects.

1.2.3 OGS is important not just in supporting the State to meet its electrification goals, but in driving socio-economic development and attainment of the CDF II across critical sectors including agriculture, health, education, science & technology, human capital development, social protection, environmental protection, and local manufacturing & assembly.

1.2.4 Electricity is and will be a key component of the socio-economic development of Jigawa State. Inadequacy in energy supply restricts socio-political development, limits economic growth, inclusive growth, and adversely affects the quality of life of citizens, both in the urban and rural areas. Improved electricity supply results in improved standards of living, and socio-economic development.

³ Jigawa State Comprehensive Development Framework II

1.3 Purpose

The purpose of this Off-Grid Solar Policy is to:

- a. Recognise the importance of OGS electrification as a viable and sustainable means of electrification in the State especially for un-served and under-served areas, and integrate OGS as part of the state's electrification mix;
- b. Set out the State Government's vision, objective, and plan to deliver affordable, reliable, sustainable, and modern electricity through off-grid solar towards improving the socio-economic livelihoods of its citizens;
- c. Set targets for OGS electrification in the State, and ensure that the proportion of the State's electricity generated from OGS shall increase to a level that meets or exceeds the State's Policy targets for OGS electricity generation;
- d. Recognise the role of OGS in supporting the State meet its climate targets, and eliminate the negative environmental and health hazards from the utilisation of inefficient fossil-fuel powered alternatives;
- e. Incorporate OGS into the State's Policy framework;
- f. Provide an enabling environment for private sector OGS investment in the State;
- g. Empower a focal government institution responsible for OGS implementation, coordination, and supervision in the State;
- h. Require the preparation of the State Off-Grid Action Plan to support the implementation of this policy, and set a time frame within which implementation is required;
- i. Recommend the development of an Integrated Resource Plan (IRP) for electrification in the State, inclusive of OGS and other energy sources in the State;
- j. Ensure effective and continuous monitoring and evaluation, and review of the implementation and effectiveness of this Off-Grid Policy and the Off-Grid Action Plan prescribed under the OGS Policy;
- k. Ensure gender and social inclusion in the design and implementation in this policy especially for the rural poor and vulnerable in the State including women, persons with disability (PWD), the youth and other vulnerable groups in the State;
- l. Utilise the Off-Grid Solar Policy as a tool for socio-economic development in the State, aligning with and supporting the development of critical sectors of the State's economy;
- m. Align and support the federal government's OGS electrification and climate targets, and initiatives.

1.4 Relevance

- 1.4.1 This OGS Policy for Jigawa State sets out the State's vision and plan for OGS electrification in the State, and catalyse private sector investment. Several OGS projects have been and are being implemented in the State by non-government organisations (NGOs), development partners, and federal government initiatives, and there is need to effectively coordinate these OGS projects towards aligning with the State government's vision and targets for electrification and economic growth. Coordinated planning will improve targeted delivery of OGS in the State, enable effective monitoring and supervision.
- 1.4.2 This OGS policy provides the right incentive and enabling environment to improve electricity delivery in the State through OGS. This OGS Policy will serve as a blueprint for the sustainable development, supply, and utilisation of OGS within Jigawa State. With this OGS Policy, the private sector can clearly articulate the commitment and provisions of the State government towards attracting private sector investment.

1.5 Focus

- 1.5.1 This Policy focuses on Off-Grid Solar (OGS) for electrification. It is anticipated that subsequent versions of this Policy document could be expanded in scope to include other off-grid renewable energy sources in the State which can be supported through the development of an Integrated Resource Plan (IRP) for the State.
- 1.5.2 Jigawa State lies within a high sunshine belt and is one of the most viable states in Nigeria for solar electrification, with solar radiation well distributed. The annual average total solar radiation is about 25.2 MJ/m²-day. Solar energy is renewable and its utilisation is environmentally friendly. When the availability and environmental costs of the utilisation of other forms of energy are considered in the State, the competitiveness and cost viability of solar energy becomes very evident, particularly with current technological advancement and innovation in solar electrification technologies.

1.6 Objectives

- 1.6.1 The overall objectives of this Policy are summarized as follows:
- a. **To implement and expand the State Government's plan as it relates to increased electricity access as articulated in the CDF II.**
 - b. To promote the development of the State's OGS resources to provide adequate, reliable, affordable, clean, and sustainable supply of electricity in the State especially to rural areas in the 27 Local Government Areas (LGAs) of the State.
 - c. To accelerate the process of acquisition and diffusion of technology, human capacity expertise, and indigenous participation in the OGS sector to create jobs within the State.
 - d. To increase investment and development of OGS, with substantial private sector participation to drive economic empowerment.
 - e. To improve the industrial sector of the State through the development and deployment of OGS resources.
 - f. To develop the State's OGS resources through the establishment of appropriate financing mechanisms that support private investment in the OGS sector.
 - g. To ensure effective coordination and collaboration among all stakeholders in OGS activities in the State.
 - h. To continue investing in the provision of rural electrification for the benefit of the citizens of the State.
 - i. To promote gender and social inclusion through OGS delivery in the State especially for women, girls, persons with disabilities (PWD), refugees, and other vulnerable persons.
 - j. To reduce poverty and improve economic livelihoods in the State especially among the poor and vulnerable through productive uses of electricity powered by OGS.

1.7 Justification

Electricity is an enabler for economic growth and improved quality of life. No sector of the State's economy will be able to attain full development potential without the provision of reliable and affordable electricity. OGS has proven to be a cleaner, faster, reliable, and affordable means of electrification, and driver for socio-economic growth.

OGS will also expand the electrification mix in the State. It improves resilience for public and social infrastructure given its cost efficiency, modular nature, speed of deployment, and reliability. The fact that off-grid solar solutions are decentralised solutions which are not dependent on the inefficiencies

and non-reliability of the grid make them more suitable for public and social infrastructure in the health, security, education, transport, and logistics sectors, whilst also providing value for money.

1.8 Critical Elements

1.8.1 Critical elements of this OGS policy include:

- a. Targets and timelines for OGS electrification as set by the State.
- b. Legislative and institutional framework for OGS implementation in the State.
- c. Policy components including planning and delivery mechanisms, financing and incentives, education and research, capacity building, public sensitisation and awareness training, and monitoring and evaluation.
- d. OGS utilisation in driving economic sectors of the State such as agriculture, health, and education.
- e. Gender and social inclusion (GESI) in OGS delivery, and socio-economic empowerment for vulnerable groups in the State through OGS.
- f. Co-ordination mechanisms – private sector, federal government, donor organisations and NGOS - for effective OGS delivery.

1.9 Review and Update

1.9.1 A Committee, under the Chairmanship of the Deputy Governor, will review this document at least once in two years and the result of such review will be used to update or replace this policy subject to approval by the State Executive Council (SEC). In view of significant changes in the orientation of the State's Power Sector, especially as regards increased private sector participation, it will also be necessary to involve the representatives of private sector, prior to SEC approval of any future review. This policy will also be reviewed and updated at the completion of the State OGS Action Plan which will be developed to support the implementation of this policy.

1.9.2 This policy may also be expanded to incorporate other off-grid renewable energy sources such as hydro, wind, and biomass as the State may choose to incorporate into its electrification mix. In such instance, the policy will be reviewed and updated to incorporate new off-grid renewable energy sources in a holistic manner. The development of a State Integrated Resource Plan (IRP) for electrification will be useful for this.

2.1 Constitutional Framework

The legal framework for the Nigerian power sector is primarily governed by Federal Legislation. According to the 1999 Constitution of the Federal Republic of Nigeria⁴ - Sections 13 and 14 of the Concurrent Legislative List, Part II, Second Schedule,

The National Assembly may make laws for the Federation or any part thereof with respect to,

- a. electricity and the establishment of electric power stations;
- b. the generation and transmission of electricity in or to any part of the Federation and from one State to another State;
- c. the regulation of the right of any person or authority to dam up or otherwise interfere with the flow of water from sources in any part of the Federation;
- d. the participation of the Federation in any arrangement with another country for the generation, transmission and distribution of electricity for any area partly within and partly outside the Federation;
- e. the regulation of the right of any person or authority to use, work or operate any plant, apparatus, equipment or work designed for the supply or use of electrical energy.

While a State House of Assembly may make laws for the State with respect to:

- a. electricity and the establishment in that State of electric power stations;
- b. the generation, transmission and distribution of electricity to areas not covered by a national grid system within that State; and
- c. the establishment within that State of any authority for the promotion and management of electric power stations established by the State.”

Paragraph 3.1.3 of the National Electric Power Policy, 2001 defines the role of States in the Nigerian Power Sector thus:

“The State Governments will carry out their responsibilities for the development of off-grid electrification and their joint responsibilities with the Federal Government on the establishment of power stations as set out in the 1999 Constitution. The State role will also include regulation of off-grid non-centrally despatched electricity operations, which are wholly limited within the State boundaries.”

2.2 Institutional Framework

The institutional framework for electrification in the state is as follows;

2.2.1 Legislation

State House of Assembly:

The State House of Assembly shall in line with the powers conferred on it by Section 14 of the Concurrent Legislative List, Part II, Second Schedule to the Constitution of the Federal Republic of Nigeria, 1999 (as amended) enact laws that will regulate OGS implementation in the State.

⁴ Item 13 of Part II, Schedule 2 to the 1999 Constitution of Nigeria (Concurrent List)

2.2.2 Policy

The task of formulating policy in accordance with the enabling laws enacted by the State House of Assembly for OGS implementation in the State while ensuring the safety of the environment shall be the responsibility of the Ministry of Works and Transport in collaboration with the relevant MDA's.

2.2.3 Implementation

The implementation of the State OGS Policy shall be driven and coordinated by the Ministry of Works and Transport, the State focal OGS agency in collaboration with the Rural Electrification Board and the Jigawa Alternative Energy Agency.

2.3 Federal, State, and Local Government Coordination

2.3.1 The Federal Government of Nigeria has developed the following energy access policy and regulatory documents for renewable energy inclusion in the national electrification mix, inclusive of off-grid solar:

- 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
- Nationally Determined Contribution (NDC) (updated 2021)

The Federal Government is also implementing several off-grid solar electrification initiatives including the USD 550 million Nigeria Electrification Project (NEP) jointly funded by the World Bank and the African Development Bank, and the 5Million Solar Power Naija Programme funded by the Central Bank of Nigeria.

Donor programmes such as the UK FCDO Africa Clean Energy Technical Assistance Facility (ACE TAF), USAID Nigeria Power Sector Programme (NPSP), and GIZ Nigeria Energy Support Programme (NESP) are providing grant funding and technical assistance for the development of the country's off-grid solar sector. The private sector has also made significant investments in the sector which is primarily private-sector led, with up to USD 227 million invested in stand-alone solar in the country between 2015 till date.

2.3.2 The State Government through the Ministry of Works and Transport as its focal OGS Institution will coordinate with the relevant Federal Government Institutions primarily the Rural Electrification Agency (REA), donor partners, and the private sector including investors, NGOs, and civil society in the implementation of this policy and OGS delivery in the State. It will also coordinate with the local government authorities in the State in ensuring OGS delivery and sustainability in the State.

CHAPTER 3: POLICY PROVISIONS

The following are the key provisions of the State's OGS policy.

3.1 Targets and Timelines:

3.1.1 The State Government's OGS targets are described in Table 1.

	2022-2024 Short term	2022-2029 Medium term	2022-2035 Long term
Share of rural population served with OGS (%)	1.02%	5.05%	10.1%
Share of urban population served with OGS (%)	12%	20%	30%
Share of government institutions served with OGS (%)	8%	20%	40%
Share of public and social infrastructure served with OGS (%)	30%	70%	100%
Share of rural economic activities served with PUE (%)	5%	10%	15%

3.1.2 The State OGS Action Plan will set out and define the State's OGS targets on an annual basis for stand-alone solar, solar mini-grids, and OGS appliances and equipment. It will establish measures for achieving these targets, roles and responsibilities of government and the private sector, and relevant strategies for implementation including monitoring and evaluation (M&E).

3.1.3 The OGS targets for the State have been developed to align and expand the electrification targets of the State government specific for rural electrification as set out in the CDF II. It aligns with the State's broader economic and social development goals and targets, and incorporates gender and social inclusion.

3.2 Financing:

The State shall set up a State Electrification Fund for OGS (the "**Jigawa State OGS Electrification Fund**") as empowered by applicable laws, with the Ministry of Finance and Economic Planning responsible for its disbursement. It will be funded by a mix of public finance including State OGS budgetary allocations; private finance from institutional investors, donor and development institutions, multilateral finance institutions, and green and climate finance funds; and any other source of finance as identified and designated by the State.

The State will consider relevant private public partnership models for OGS delivery in the State, whilst ensuring gender and social inclusion.

The Jigawa State OGS Electrification Fund may also provide through its State OGS programmes, consumer financing for off-grid consumers and vulnerable groups to improve affordability and adoption of OGS products. The State will partner with financial institutions, donor programmes, and other relevant stakeholders to support implementation.

3.3 Incentives:

The State may provide incentives to attract private sector investment for OGS and encourage OGS delivery to un-served and under-served areas, and vulnerable populations. These incentives will include:

- a. **Tax Exemptions:** The State will exempt eligible stakeholders from certain taxes/duties/fees payable to the State. Such tax incentives may include exemptions from consumer taxes such as Value Added Taxes (VAT). The State will maintain a database of OGS Providers and stakeholders in the State for ease of data collation, provision of incentives where necessary, and monitoring & evaluation (M&E).
- b. **Guarantees:** The State will provide guarantees for OGS projects to improve investor confidence, attract investment, and improve OGS project sustainability.
- c. **Access to Land:** The State will provide access to land at little or no cost to private investors in the OGS sector. The State government will take appropriate steps to simplify the procedure for acquisition of land within the State where the purpose is for utilization of OGS development. Charges such as application fees, Certificate of Occupancy fees and Ground rents may be partially or completely waived for private sector investors to facilitate rapid development of the OGS sector.

3.4 Education, Research and Capacity Building

The State will also educate and sensitise academic institutions on OGS with the aim of building relevant OGS skills and expertise in the State through research and capacity building. As such, the State will,

- a. Include clean energy courses inclusive of OGS into the academic curriculum and subjects such as basic science, design and technology, engineering, and environmental sciences in State academic institutions.
- b. Partner with private sector OGS providers to conduct State-wide campaigns and tours in both private and public schools in the State with OGS product demonstrations.
- c. Support students and lecturers/teachers with research grants on OGS and related research areas.
- d. Develop skills acquisition, mentoring, and other technical and non-technical programmes on clean energy inclusive of OGS especially for female students.
- e. Integrating OGS skills and capacity building in the State's research and training institutes.

3.5 Gender and Social Inclusion

Gender equality and empowerment of women and girls is one of the seventeen (17) State Development Goals set out in the Jigawa State Comprehensive Development Framework II. Gender equality of women and girls; and social inclusion of vulnerable groups is also made a major pillar of this OGS Policy. OGS has proven to have significant socio-economic benefits for women and vulnerable groups, who are the most impacted, negatively by the lack of energy access.

The State will prioritise OGS delivery to vulnerable groups including women, persons with disabilities, youth, internally displaced persons, other vulnerable persons and social classes, especially the vulnerable poor in economically disadvantaged areas of the State.

The State through the Ministry of Works and Transport working with OGS providers/operators (as applicable), relevant MDAs, and other relevant stakeholders will implement the following measures.

- i. Ensure that State OGS programmes and projects are developed with significant consideration given to GESI and targeting areas with considerable GESI population. The Ministry of Works and Transport will periodically review and set targets for GESI empowerment through OGS in the State.
- ii. Ensure GESI balance in the State's MDAs tasked with OGS related responsibilities.
- iii. Create GESI sensitisation campaigns for OGS in the State.
- iv. Set out GESI guidelines for OGS Providers in the State, including provision of incentives to OGS Providers that show significant gender and social inclusion in their operations.

- v. Provide OGS financing to subsidise the cost of OGS delivery to GESI groups and the poor.
- vi. Provide OGS empowerment programmes for artisans to build capacity and entrepreneurial skills on OGS with emphasis to GESI groups.

This is supported by existing GESI legislation and Policies in the State, such as the Jigawa State Social Protection Policy; and the Jigawa State Social Security Law, 2007.

3.6 Planning and Policy Implementation:

3.6.1 The Ministry of Works and Transport as the State's focal OGS Agency shall be responsible for overall planning, development, monitoring and implementation of this policy, and coordination with other relevant government policies and activities where applicable. This also includes the OGS Action plan developed to support the implementation of this policy.

3.6.2 The Ministry of Works and Transport will assign clear responsibilities for the implementation of this policy and off-grid solar development in the State to relevant government and private sector stakeholders. This includes engagement and cooperation with local government authorities in rural OGS delivery.

3.6.3 The State Government recognises and integrates OGS as a key component of its integrated rural development plan, and overall economic development plan of the State. The State recognizes OGS as a key electrification component for the State for its socio-economic growth.

3.6.4 Off-grid Solar (OGS) Action Plan:

3.6.4.1 The Jigawa State Government will develop a State Off-Grid Solar Action Plan to support the implementation of this OGS Policy. It will set-out specific targets, measures, strategies, and steps to be taken by the state and key stakeholders in the implementation of the policy and attainment of the policy objectives.

3.6.4.2 The State OGS Action Plan will:

- a. Define the State Government's short-, medium-, and long-term targets for Off-Grid Solar Policy;
- b. Map out areas, communities, and clusters that would be best suited for the utilisation of OGS;
- c. Describe the nature of incentives that will be provided to the private sector for OGS delivery in mapped out areas and communities in the state.
- d. Define the roles and responsibilities of all key Government Institutions at all levels, private sector, donor partners, and NGO stakeholder in the implementation of the OGS policy, and OGS delivery in the state.
- e. Describe measures for education, research, sensitization, consumer protection, and capacity building programmes for OGS in the State;
- f. Set out compliance with regulatory provisions applicable to OGS in the state such as product quality standards, and e-waste.
- g. Integrate gender and social inclusion (GESI) in the implementation of the OGS Policy.

3.7 Public Sensitisation and Awareness Creation:

The State Government will, in collaboration with OGS Providers, donor partners, non-governmental organisations, industry associations, consumer groups, relevant state government MDAs such as the State Ministry for Information, and local council and community leaders engage in Above the Line ("ATL") and Below the Line ("BTL") sensitisation and public awareness campaigns to ensure residents

of the State are enlightened on the benefits of OGS, and the State OGS programmes. This will include but not be limited to awareness on the utilisation of OGS products, quality standards, financing, e-waste management, productive uses, and other benefits of OGS. Emphasis will be given to gender and vulnerable groups including the development of OGS empowerment programmes for these groups.

The ATL and BTL activities will include but not limited to the following:

- a. Digital media such as radio and television sensitisation programs, and non-digital media such as newspapers, billboards, and other relevant media.
- b. Product demonstration through roadshows and events, and community to community campaigns in un-served and under-served areas, MSME clusters, and other public areas.
- c. Workshops and events on OGS tailored for the varying demographics of the population.
- d. Sensitisation through associations, cooperatives, and other consumer groups.

3.8 Monitoring and Evaluation:

- 3.8.1** The State through a committee comprising all relevant MDAs led by the Ministry of Works and Transport shall monitor & evaluate the implementation of this OGS Policy on an annual basis. A comprehensive M&E tool will be developed under the State OGS Action Plan for effective monitoring and evaluation of this policy through the OGS Action Plan.

4.1 Electrification

4.1.1 Objective

To electrify un-served (off-grid) and under-served households and businesses in the state especially rural communities through the provision of clean off-grid solar solutions.

4.1.2 Strategies

- a. Developing State OGS programmes and initiatives for OGS delivery in un-served and under-served communities across the State. This includes households; Micro, Small, and Medium Enterprises (MSMEs), businesses, and other economic activities in the state.
- b. Designating a focal government institution for OGS implementation, supervision, and coordination in the State.
- c. Provision of subsidies to improve OGS affordability for the poor and vulnerable population in the State.
- d. Provision of incentives to catalyse private sector OGS investment in the state.

4.2 Health

4.2.1 Objective

To improve health care delivery in the State through the provision of reliable and sustainable electricity for government hospitals, primary health centres (PHCs), and medical facilities, especially in rural communities.

4.2.2 Strategies

- a. Recognition and integration of OGS into the State's health sector plan and initiatives. This includes government, donor, and private sector health initiatives in the State to ensure a holistic approach towards improving health care delivery in the State.
- b. Development of a State PHC Electrification Plan in collaboration and with support from donor partners and the private sector to deploy affordable and sustainable OGS solutions for PHCs in rural communities. This will form part and incorporated under the overall health plan of the State.
- c. Coordination between the Ministry of Works and Transport and the Ministry of Health on PHC and health facilities electrification through OGS in the State.

4.3 Education, Science, and Technology

4.3.1 Objective

To develop technical and non-technical OGS and clean energy skills and expertise in the State; and improving the quality of education in the State.

4.3.2 **Strategies**

- a. Deploying OGS solutions in powering academic institutions especially primary and secondary school institutions in rural communities of the State. This will be integrated as a component of the State's overall education plan and framework.
- b. Include clean energy courses inclusive of OGS into the academic curriculum and subjects such as basic science, design and technology, engineering, and environmental sciences in State academic institutions.
- c. Partner with private sector OGS providers to conduct State-wide campaigns and tours in both private and public schools in the State with OGS product demonstrations.
- d. Support students and lecturers/teachers with research grants on OGS and related research areas.
- e. Develop skills acquisition, mentoring, and other technical and non-technical programmes on clean energy inclusive of OGS especially for female students.
- f. Integrating OGS skills and capacity building in the State's research and training institutes.

4.4 **Agriculture**

4.4.1 **Objective**

Improving food productivity, security, and quality, and resilience in the State's agriculture sector through the incorporation of OGS productive use appliances.

4.4.2 **Strategies**

- a. Integration of OGS across the State's agriculture value chain as relevant towards improving agricultural productivity and food security in the State.
- b. Collaboration with donor partners and programmes towards delivery of OGS productive use appliances such as solar water pumps, solar cold rooms, solar processors and grinders, and other OGS productive use appliances for agricultural activities in the State.

4.5 **Environment and Resilience**

4.5.1 **Objective**

Mitigating the negative environmental, health, and climatic impacts of inefficient fossil-fuel energy alternatives through the utilisation of cleaner and sustainable sources of energy in the State. This will support the attainment of the State's climate goals, as well as contribute to that of the national government.

4.5.2 **Strategies**

- a. Deploying OGS solutions for government and social infrastructure such as government offices, public facilities and infrastructure such as water works, security stations, and commercial buildings.
- b. Designation of "green areas" within the State's urban area to be powered by OGS as part of the State government's climate mitigative initiatives for the State.
- c. Provision of incentives for households and businesses to encourage a transition from inefficient fossil-fuel alternatives such as kerosene lamps towards cleaner OGS solutions.

4.6 **Local Manufacturing and Assembly**

4.6.1 **Objective**

To establish Jigawa as a leader in the manufacture and assembly of clean energy solutions in the country, and boost job creation and economic activities in the State.

4.6.2 Strategies

- a. Provision of incentives to encourage private sector investment in the State in OGS assembly and manufacturing. Such incentives may include but not be limited to tax exemptions and land provision for such facilities.
- b. Facilitation of necessary regulatory permits and licenses as required by the federal and state government to enable private sector investment in the State.

4.7 Social Protection

4.7.1 Objective

Ensure Gender and Social Inclusion (GESI) in OGS delivery in the State, and the utilisation of OGS in providing empowerment opportunities for GESI groups in the State.

4.7.2 Strategies

- a. Priority in OGS delivery to GESI groups, and the most vulnerable households in the State through the State's OGS programmes and initiatives.
- b. Provision of subsidies for OGS delivery to GESI groups and vulnerable households in the State. This can be through
 - i. the State OGS programmes as described in paragraph 3.5(v) above, where the state government can subsidise the cost of OGS products to target vulnerable households and GESI groups in the State.
 - ii. Inclusion of OGS into the State government's social protection and poverty alleviation programmes such as cash vouchers to support the adoption of GS solutions in the State for GESI and vulnerable households who are unable to afford them.
- c. Collaboration with donor partners and programmes, and NGOs in OGS delivery for GESI groups and vulnerable households in the State.

The Ministry of Works and Transport has been designated as the focal agency for overseeing OGS implementation in the State, and coordination with relevant public and private sector stakeholders. This will include oversight of the legal and regulatory framework for OGS in the State which will be cognisant of and in alignment with the existing legal and regulatory framework at the federal level. It will also coordinate with the relevant federal government institutions with a mandate to facilitate the development of OGS.

5.1 The Role of the Ministry of Works and Transport (Jigawa State OGS Focal Agency)

The **Ministry of Works and Transport** will be responsible for integrating OGS into the State's electrification plan and implementation of OGS in the State. Key responsibilities for the **Ministry of Works and Transport** include:

- a. Implementation of this State OGS Strategy and Plan, and other policy and regulatory provisions for OGS in the State.
- b. Development, oversight, supervision, and M&E of State OGS projects and programmes.
- c. Coordination with the private sector including OGS Providers, investors, financiers, donor and development programmes, market development organisations, and other relevant OGS stakeholders in the State.
- d. Facilitating relevant regulatory and project requirements for OGS projects and programmes in the State.
- e. Oversight, management, utilisation, and disbursement of the State OGS Electrification Fund. This will also include exploring potential sources of finance for the fund from public and private sector sources.
- f. Application of incentives for OGS in the State.
- g. All other responsibilities relevant for the effective delivery of OGS electrification in the State.

In general, the **Ministry of Works and Transport** will lead and supervise State Government OGS projects as well as have oversight on OGS projects implemented by other stakeholders such as the federal government and donor programmes in the State; collate and analyse OGS related data in the State; coordinate with key public and private stakeholders at the State and federal level; and establish State OGS-based electrification plans. The latter task can be executed in collaboration with the Rural Electrification Agency to also align with the national electrification target and plan for OGS.

In exercising its role, the **Ministry of Works and Transport** may from time to time establish a Taskforce or Technical Working Group (TWG) under its supervision to advise and support the implementation of its OGS plans, programmes, and projects in the State.

The Taskforce/TWG may consist of representatives of both private and public stakeholders such as:

- a. Relevant State government MDAs
- b. Private sector industry associations such as the Renewable Energy Association of Nigeria
- c. Donor partners and development programmes
- d. Market development organisations and non-governmental organisations in the OGS sector
- e. OGS sector participants /operators, experts and consultants
- f. Relevant state or federal government ministries, departments, or agencies.
- g. Any other relevant stakeholder such as development finance institutions and social/consumer groups.

5.2 Government and Private Sector Coordination

In implementing this State OGS Policy, the **Ministry of Works and Transport** 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;

- a. State Ministries of Finance and Economic Planning; Environment; Water Resources; Works and Transport; Health; Agriculture and Natural Resources; Education, Science & Technology; Women Affairs and Social Development; Local Government, Chieftaincy & Community Development; Information, Youths, Sports and Culture; and Lands, Housing and Urban Development. This also includes the Rural Electrification Board, and the Alternative Energy Agency. Others may include relevant agencies and parastatals such as the Jigawa State Investment Promotion Agency (InvestJigawa); and State Internal Revenue Service.
- b. Local Government Authorities / Local Council Development Authorities to:
 - i. Identify unserved and under-served areas within the State eligible for OGS, and ensure proper electrification planning
 - ii. Carry out consumer education and public sensitisation on the benefits of OGS, and
 - iii. Ensure community ownership, utilisation, and sustainability of State OGS electrification projects.

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

- a. The Federal Ministry of Power
- b. The Rural Electrification Agency (REA)
- c. Nigerian Electricity Regulatory Commission
- d. Nigerian Electricity Management Services Agency (NEMSA)
- e. The Standards Organisation of Nigeria (SON)
- f. Other relevant federal ministries and agencies such as the Federal Ministry of Environment, and National Environmental Standards Regulatory and Enforcement Agency (NESREA).

The **Ministry of Works and Transport** will lead and coordinate activities with all relevant Federal, State, and Local Ministries, Departments, or Agencies (MDAs) in the implementation of OGS in the State.

CHAPTER 6: CONCLUSION

This OGS Policy provides the State's vision and plan for OGS electrification in Jigawa State. An OGS Action Plan will be developed to support the effective and sustainable implementation of this policy in the short, medium, and long term to attain the OGS Policy objectives. The Jigawa State Government recognizes 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 Jigawa State.

This OGS Policy will play a key role in driving the Government's economic objectives as set out the Jigawa State Comprehensive Development Framework II across all socio-economic sectors of the state and improvement in the livelihood of its citizens. The OGS Policy shall be utilized and applied towards the realization of the Government's objectives to enable the State achieve its set economic development targets.

It will also improve the enabling environment and ease of doing business in the State, and boost the economic growth of the State. The State government looks forward to the support of all relevant stakeholders in realizing the objectives and purpose of this policy for the betterment of the citizens of Jigawa State.

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