Country-Wise Plans and Policies – Nigeria

22nd March 2022

Anita Otubu

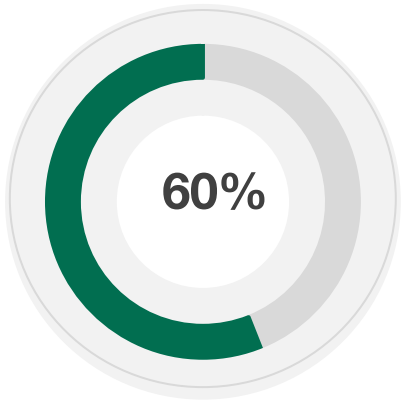
Electricity Challenges in Nigeria

Current National Peak Demand: estimated at 25,790MW

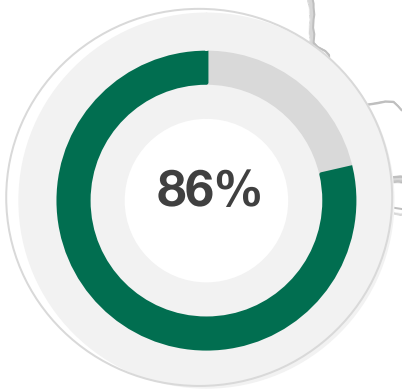
Total installed capacity: 16,384 MW (**on grid**)
500 MW (**off grid**, 2019*)

Generated: ~12,522 MW

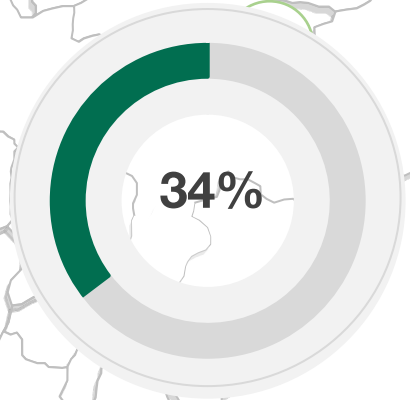
Distributed: ~3,800MW



Current electrification access rate



Urban population access rate



Rural population access rate

USAID-PowerAfrica Fact Sheet (updated Jan. 2022)
*https://rea.gov.ng/off-grid-devt-ll-rescue-nigeria-power-sector/#:~:text=Currently%2C%20Nigeria's%20total%20off%2Dgrid,the%20prudent%20way%20to%20begin

Solar Power in Africa

Policies and regulations to promote solar power in Nigeria

2005

The **Electric Power Sector Reform Act** (EPSRA) was introduced.

Nigeria Electric Power Authority, was unbundled, forming the Power Holding Company of Nigeria

NERC and REA were created to facilitate regulations and policies as well as expand electrification access respectively.

2008

Permits For Captive Power Generation Regulations issued by NERC

2012

Independent Electricity Distribution Network(IEDN) Regulations issued by NERC

NERC (Embedded Generation) Regulation issued

2015

The FGN approved the **Regulations on Feed-In Tariff** for Renewable Energy Sourced Electricity in Nigeria (REFIT).

It obligated DisCos to source at least 50% of their total procurement from renewables.

2016

The **Mini-Grid Regulations,** 2016 was issued by NERC creating a framework for the establishment and operation of mini-grids in Nigeria.

National Renewable Energy and Energy Efficiency Policy (NREEEP) was launched to facilitate access to modern and clean energy resources, improved energy security and climate objectives.

SE4All Action Agenda was adopted to achieve 8,000 MW of off-grid power by 2030.

Rural Electrification Strategy and Implementation Plan (RESIP) adopted to increase the rate of electrification across Nigeria with at least 10% of renewable energy mix.

Power Sector Recovery Programme (PSRP) - Series of policy actions, operational governance and financial interventions to RESET the NESI for future growth

2017

Economic Recovery and Growth Plan (ERGP) 2017, targeting increase in energy access and availability through mobilizing investments to execute renewable off-grid power solutions.

NERC issued the **Eligible Customers Regulation**

2020

The **Nigeria Economic Sustainability Plan (2020)** was launched with a section dedicated to advancing the off-grid electrification sector.

It led to the launch of the N140 billion Naira Solar Power Naija Program targeted at providing 5 million new solar connections across Nigeria.

Guidelines on Distribution Franchising in the NESI

Though these regulations do not specifically mention the use of solar, they indirectly promote the use of solar as independent, decentralized / off-grid & interconnected solutions tend to have solar/solar hybrid components

**Renewable Electricity Guidelines, 2006; *Regulation 3 of the NERC Regulation for Mini-Grid Regulations, 2016; ***National Renewable Energy and Energy Efficiency Policy for Nigeria*

REA Off-grid Electrification Strategy / Plan

1. Nigeria Electrification Project (NEP)
2. Rural Electrification Fund (REF) – IMAS/MAS
3. Energizing Economies Initiative (EEI)
4. Energizing Education Programme (EEP)
5. Solar Power Naija (SPN)
6. Energizing Agriculture Programme (EAP)

RURAL ELECTRIFICATION AGENCY

ENERGY = EMPOWERMENT = EFFICIENCY

Progress Made So Far - NEP

An innovative initiative of the FGN funded by two (2) loan facilities from the **World Bank** ($350m) & **African Development Bank** ($200m) to the tune of **$550m** targeted at providing off-grid reliable and clean electricity supply to **705,000 households, 90,000 MSMEs, 100 Isolation and Treatment Centers, 400 Primary Healthcare Centers, 15 Federal tertiary institutions and 2 teaching hospitals** in unserved and underserved areas of Nigeria. It also targets the provision of **24,500 Productive Use Equipment and Appliances** for the sustainability of mini-grids as a result of increased load demand and the ability to pay for same.

The NEP compromises 5 components:

- Solar Hybrid Mini grid
- Standalone Solar Home Systems
- Energizing Education Programme
- Energy Efficient Equipment And Productive Use Appliances
- Technical Assistance

NEP Status

22nd March 2022

65
Completed Mini Grids

14
Commissioned Mini Grids

452,442
Total SHS deployed

15.6 MW
PV capacity deployed

198
Grant Agreements signed

259
Field studies conducted across the country

258
Communities sensitized across the country

302
Developers have applied for programmes under NEP

25,970
Pipeline connections from 51 Mini grid projects completed but not commissioned

8
Completed containerized solar hybrid solutions for ITCs (Health facilities)

Commissioned Mini Grid Sites

65
Completed Mini Grids

14
Commissioned Mini Grids

Rokota Community, Niger state – Developer: **PowerGen**

Akipelai Community, Bayelsa state – Developer: **Renewvia**

Oloibiri Community, Bayelsa state – Developer: **Renewvia**

Rukubi Community, Nassarawa state – Developer: **Husk Power**

Ugbo Nla Community, Ondo state – Developer: **A4&T**

Lomileju Community, Ondo state – Developer: **A4&T**

Shimankar Community, Plateau state – Developer: **GVE**

Egbeke Community, Rivers state - – Developer: **GVE**

Completed COVID-19 & Beyond sites

By Havenhill

8
Completed containerized solar hybrid solutions for ITCs (Health facilities)


50KW Solar System at Central Hospital, Auchi, EDO STATE


50KW Solar System at Irrua Specialist Hospital, Irrua, EDO STATE


50KW Solar System at Rivers State University Teaching Hospital, Port Harcourt, RIVERS STATE


50KW Solar System at University of Port Harcourt Teaching Hospital, Port Harcourt, RIVERS STATE

SHS Beneficiaries in Nasarawa State

452,442
Total SHS deployed

SHS Systems supplied by: **Greenlight Planet**

SHS Systems supplied by: **Asolar**

SHS Systems supplied by: **Lumos**

Progress Made So Far - REF: Call 1 & 2

REF provides capital subsidies to qualified rural electrification schemes developed by public and private sector entities focusing on Mini Grids, Solar Home Systems and Grid Extension.

Mini Grid and Interconnected Mini Grid Acceleration Schemes (MAS & IMAS) Phase 1 & 2 spread across REF Call 1 & 2: An in-kind partial grant in the form of procured distribution, metering equipment and technical assistance, to support the deployment of privately led solar mini grids and interconnected mini-grids, in partnership with the German GIZ.

REF Status

22nd March 2022

Mini Grids SHS

Grant with total value of **EUR 18.3 Million**
(MAS: EUR 6 Million, IMAS 1: EUR 3 Million, IMAS 2: EUR 9.3 Million)

8,500 Connections (MAS & IMAS)

REF Call 1 (MAS & IMAS 1)		REF Call 2 (IMAS 2)	
12 mini-grids completed	**19,000** SHS deployed	**1** mini-grid completed	**8** developers selected to deploy **23** mini-grids (IMAS)
5272 mini-grid connections	**1** Interconnected mini-grid commissioned (IMAS)	**51** mini-grids in the pipeline	Renewable Energy Research & Innovation Hub launched
4 developers selected to deploy **3500** mini-grid connections (MAS)			

Progress made so far - EEI

22nd March 2022

	Lagos	Abia	Kano	Lagos	Ogun	Ondo	Edo	Ondo	
	Sura Shopping Complex	Ariaria Market	Sabon Gari Market	Iponri Market	Ita Osun Market	Isinkan Market	Edaiken Market	NEPA 1&2	Total
Connections & Meters Installed	1,047	4,768	6,102	507	508	157	168	179	**12,927**
SMES Connected (Estimated)	1,091	4,763	6,102	1,670	3,602	190	168	278	**86,909**
Installed Capacity (Kw)	10,000	1,600	750.24	684	87.48	45.36	29.16	41.62	**12,927**
CO2 Savings (Annually)	22,806,000	78,192,000	16,290,000	6,516,000	2,606,400	325,800	325,800	195,480	**126,931,680**

Progress Made So Far - EEP

This initiative is geared at providing; sustainable clean power to selected **federal universities** and **university teaching hospitals** across Nigeria, through the provision of **captive power plants, renewable energy workshop and training centres** and **solar powered streetlights.**

Progress made so far - EEP

22nd March 2022

7

Completed solar hybrid plants

Sterling & Wilson and METKA

AE-FUNAI

Commissioned 2nd August 2019

BUK

Commissioned 3rd September 2019

FUAM

Commissioned 4th December 2020

UDUS

Completed March 2021

ATBU

Commissioned 2nd February 2021

FUPRE

Commissioned 26th February 2021

NAU

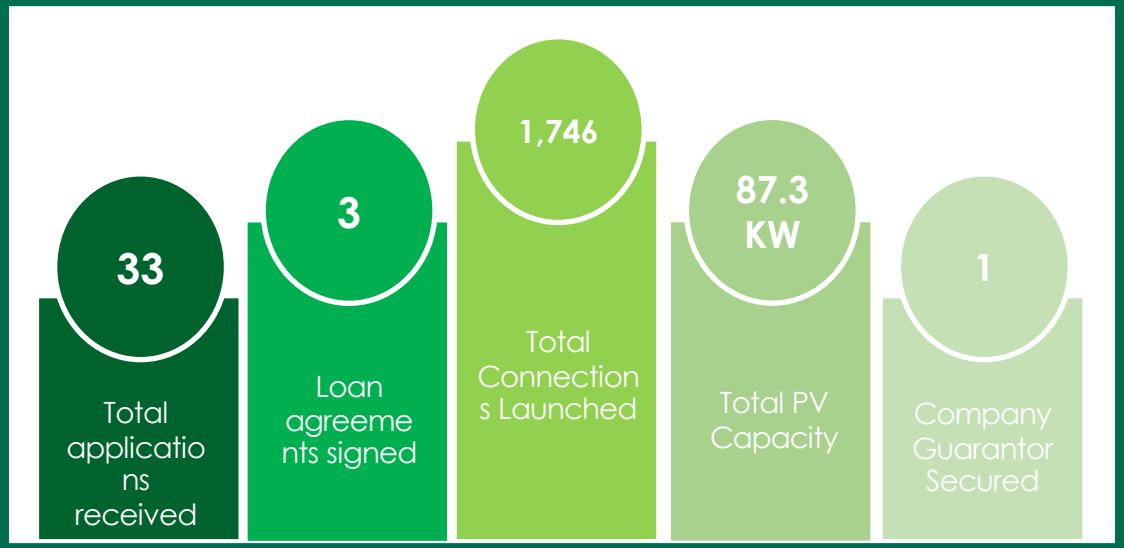
Completed March 2021

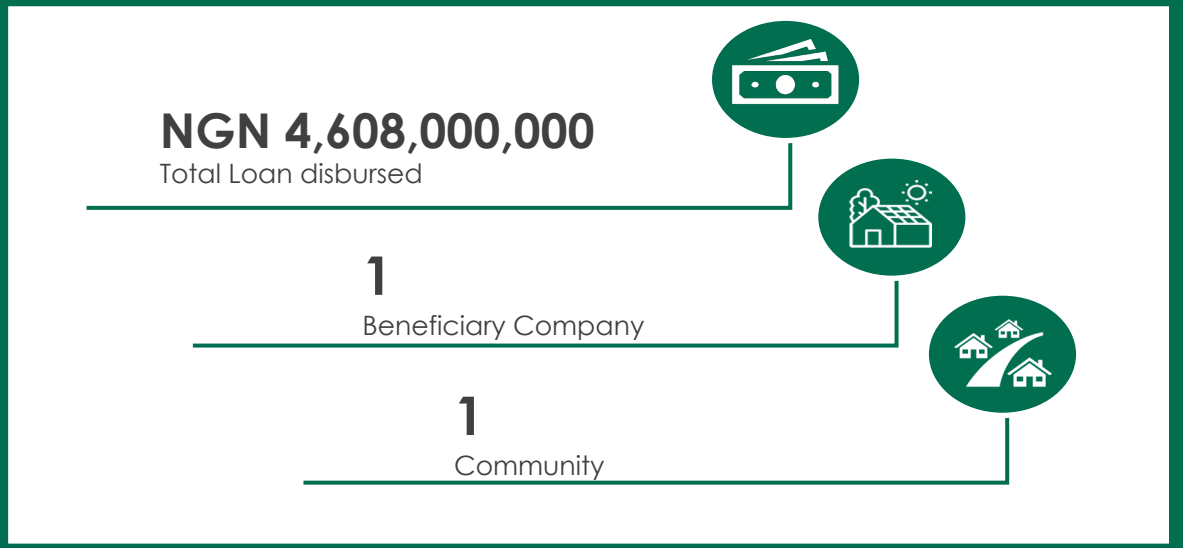
Progress Made So Far - SPN

A total of N140 Billion FGN credit facility with the target of providing 5 million new solar connections to 25 million Nigerians

SPN Status

22nd March 2022





1

Continuous pre-transaction activities towards implementing **NNPC's N22 Billion guarantee** for the provision of 215,000 household connections;

- 6 units of 5MW mini-grids and 25,000 SHS to Borno state
- 100,000 SHS across the country

2

Finalizing modalities, transaction agreements and commencement of procurement of 260,000 SHS units through **NSIA's $20 Million investment facility**.

3

Following through on **Infracredit's** commitment towards securing funds for solar system investors from the Bank of Industry to the tune of **N20 Billion**.

Solar Power in Africa
Initiatives to Address the Challenges that Lie Ahead

Before looking at the initiatives, it is apt to highlight some of the challenges currently confronting solar energy deployment and utilization in Africa. These are:

Low Public Awareness

Lack of comprehensive off-grid database

Lack of access to finance

Lack of adequate legal framework to protect investments

Lack of technical manpower

Cultural restriction on land use

Insecurity, Theft/Vandalization of system components

Level of Technology/ Component Failure

Poor Maintenance and after-sale services

Solar Power in Africa
Initiatives to address the challenges

Proper design and planning of solar/renewable energy projects from inception to execution to attract climate and development finance from DFIs and to ensure quality outcomes

Provision of market intelligence, geo-spatial and granular data for private sector developers

Public awareness – The relevant government agencies should publicize solar energy and its advantages.

Policy Consistency: There is need for policy consistency to prove to private investors that the terms of contract entered into will not be changed upon investment.

Tax incentives such as tax holiday for manufacturers and on dividend incomes from investments on domestic renewable energy sources.

Power Production Tax Credits for individuals who deploy solar power.

There should be a legal framework which promotes the use of renewable energy power solutions as well as protects private sector participation and investments..

Review of the National Building Codes, mandating new house design to incorporate energy saving measures, as well as the deployment of roof top solar power technologies.

Enactment of an executive order encouraging local Banks and other financial institutions to provide low interest loans and micro-credit facilities for entrepreneurs who embark on Solar Power generation projects (production & distribution).

Commitment of more funding to energy and research institutions such as the Sokoto Energy Research Centre (SERC) and the National Centre for Energy Research and Development (NCERD) to develop cheaper solar technologies that the private sector can consider viable for investments as well as training of manpower.

Promotion of Energy-Efficient Productive Equipment and Appliances in mini-grid communities to stimulate load demand and improve the means of livelihood of the end-users towards sustainability of the mini-grids

Thank You

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