RURAL ELECTRIFICATION AGENCY

ENERGY = EMPOWERMENT = EFFICIENCY

THE REA IMPACT REPORT

A 3-year Impact Snapshot

Jan 2020 - Jan 2023

This is a multi-media e-publication designed for REA's growing new media audience

Content

Introduction

In the last 3 years, the Board, Management and Staff members of the Rural Electrification Agency (REA) has strengthened the Agency's mandate while working in line with the Federal Government's objective on the delivery of clean, sustainable energy infrastructure nationwide, under the Federal Ministry of Power.

The REA is a critical Agency in the nation's energy sector. Beyond this, the Agency is positioned as an implementing tool for improved energy access amongst the unserved and the underserved. Through the Agency's deliberate collaboration with key stakeholders in the nation's off-grid space, it has greatly improved productive collaborations with private sector players and development partners over the years. Since 2020, the current management of the Agency has approached the business of electrification differently, through a 5-year strategy document that has strengthened the internal workings of the Agency, improved the Agency's project delivery vehicles and activated new suite of programmes targeted at critical ecosystems such as the health sector, agriculture and education.

The REA strategy has equally succeeded in positioning the Agency for deeper-level impact on livelihoods while enabling the private sector to plug into it for the sustainable deployment of projects through a programmatic framework.

This e-publication represents a multimedia snapshot of the Agency's impact in the last 3 years – January of 2020 to January of 2023.

Connecting Vision to Action – The REA Strategy

The vision helps guide REA's new priorities, project portfolio, and guidance for the rural electrification sector – clearly stating REA's purpose in promoting electricity access throughout Nigeria. These strategic priorities guide REA programming by providing spotlights on the types of change REA seeks to achieve in the rural electrification sector in pursuit of impact delivery for 5 years; 2020 – 2025.

The Vision

Nigeria achieves universal access to affordable, secure, and sustainable electricity, thus improving the quality of life and economic opportunities for unserved and underserved communities

Strategic Priorities

Implement and coordinate

Increasing Sector Coordination

Support greater collective impact through increased coordination of the public sector, donor, and private sector rural electrification efforts throughout Nigeria

Promote a sustainable market

Promote a sustainable market

Electricity markets for unserved and underserved users strengthened across the value chain by an effective enabling environment, including access to innovative and attainable finance mechanisms, market data and harmonized regulation

Focus on the Unserved and Underserved

Reaching Communities in Need

Improved quality of life through the electrification of unserved and underserved households & institutions (health, education, etc.) and economic sectors via grid extension & off-grid solutions, such as SHS and mini-grids

Increasing Economic Opportunity

Increased economic opportunities in rural areas through electrification initiatives that reach SMEs, agriculture, and other priority industry segments

Excellence in Delivery and Talent

Shaping REA into a Top-Tier Agency

Providing internal development programs, employee support initiatives, and transparent work practices to solidify REA as an agency that builds and maintains its institutional capacity by attracting and retaining expert talent and related partnerships

Powering Nigeria, One Community at a Time Through the NEP - PBG

The Performance-Based Grant Programme (PBG) is designed to close the viability gap for mini grids developed on a spontaneous basis. Using this grant mechanism, communities are identified, verified and sensitized by mini grid developers and they may also use this window to support development of pre-planned projects in their portfolios. In the last 3 years, the Agency has successfully drawn-in viable private sector developers, enabling them to access the grant while accelerating the deployment rate to close the energy gap in communities across Nigeria.

Mini-Grids Deployed through the NEP PBG

NIGER STATE

Gbara - 84Kwp
Maagi Bukun - 76Kwp
Maagi Igenchi - 76Kwp
Nantu - 42Kwp
Ndejiko - 26Kwp
Kpanbo - 76Kwp
Dancitagi - 200Kwp
Dukugi - 156Kwp
Gbade - 106Kwp
Ebangi - 56Kwp
Sosa - 56Kwp
Sa'achi Nku - 56Kwp
Egbeke/Nwuba - 55Kwp
Kalaibiama - 25kwp
Lomileju - 12Kwp
UgbonNla - 30.15Kwp
Laoso - 54Kwp
Gida Buba - 50Kwp
Igbabo - 100Kwp
Idadu - 90Kwp
Kiguna - 82Kwp
Akura - 100Kwp
Rukubi - 180Kwp
Obadore - 40Kwp
Mebiowa Okposi - 98Kwp
Bokani - 100Kwp
Adogo Mallam - 180Kwp
Soba - 100Kwp
Sabon- Gari - 100Kwp
Sabon-Rigiya - 150Kwp
Gbangba - 90Kwp
Lafian-Kpada - 50Kwp
Mai Jaki - 45Kwp
Aninigi - 24Kwp

OYO STATE

Abuja Leather - 70Kwp
Arget - 35Kwp
Ayegun Wasimi - 16Kwp
Kofeogun - 16Kwp
Oko Ile - 50Kwp
Igbori - 25Kwp
Ahoro Dada - 50Kwp
Alaropo Nla - 16Kwp
Sanni Sala - 35Kwp
Orita Orisumibare - 35Kwp
Adafila - 90kwp
Okerete - 16Kwp
Elekonkan - 100Kwp
Olokoto - 35Kwp

CROSS RIVERSTATE

Ekong Anaku - 12.48Kwp
Balep - 9.39Kwp
Opu - 14.04Kwp
Bendeghe-Afi - 19Kwp
Abaribara - 27Kwp

RIVERS STATE

Obokwu Ozuzu - 19Kwp

FCT

Old Chikuku - 40kwp
Petti - 60Kwp
Kilankwa - 60Kwp
Kilankwa II - 60Kwp

AKWA IBOM STATE

Emereoke - 28.08Kwp
Mbiabet Esieyere - 20Kwp

FCT

Old Chikuku - 40kwp
Petti - 60Kwp
Kilankwa - 60Kwp
Kilankwa II - 60Kwp

BAYELSA STATE

Oloibiri - 67.32Kwp
Akipelai - 67.32Kwp

PLATEAU STATE

Shimankar - 234Kwp

KADUNA STATE

Magtari - 117Kwp

OGUN STATE

Ikenne Market - 58Kwp

NASARAWA STATE

Bakono - 99.8Kwp

ONDO STATE

Ajana Ejidoku - 60Kwp

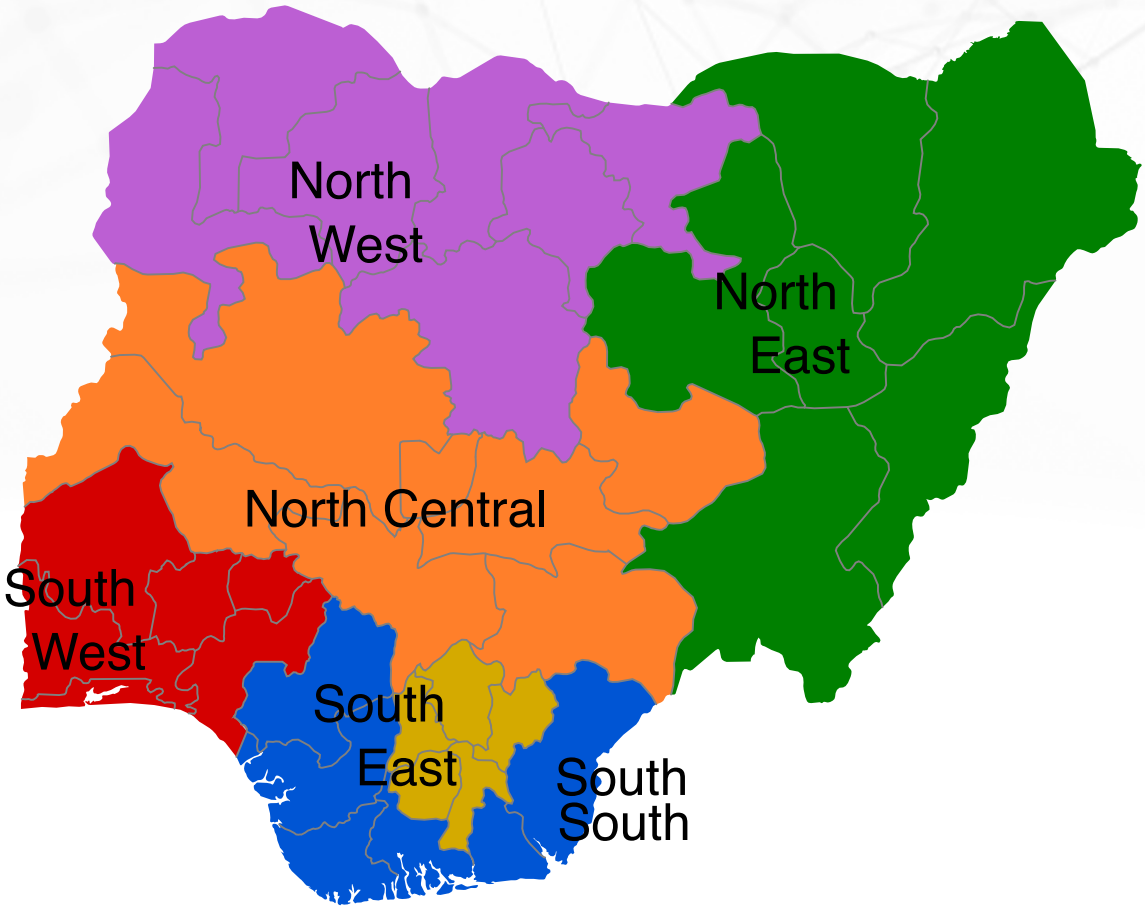
Click Here

As part of the Agency's plan for accelerated deployment of off-grid infrastructure through the NEP, 67 solar hybrid mini-grids have been deployed through the NEP - PBG, with over 52MW of PV capacity deployed. Over 90% of the NEP-PBG impact was delivered between 2020 and 2022. These interventions continue to serve previously unserved and underserved communities nationwide while aiding social and economic development through productive use. Over 200, 000 additional connections currently in the pipeline.

Improving Energy Access in Households through the NEP – SHS Component

In the year 2022, the REA officially hit and crossed the 1 million connections milestone through the deployment of Standalone Solar Home Systems (SHS) for improved energy access across Nigeria. The objective of the "Standalone Solar Home Systems for Households and Micro Small Medium Enterprises (MSMEs)" component of the NEP is to help millions of unserved and underserved Nigerian households and MSMEs access better energy services at an affordable cost, via stand-alone solar systems through private sector companies. This, in turn, will significantly scale up the market for Solar Home Systems (SHS) in Nigeria. The target beneficiaries are people in off-grid locations or underserved customers that have inefficient and unreliable energy access.

SHS Systems Deployed Nationwide through the NEP - SHS Component



204,536 | 18,879 | 175,787

674,656 | 21,988 | 131,619

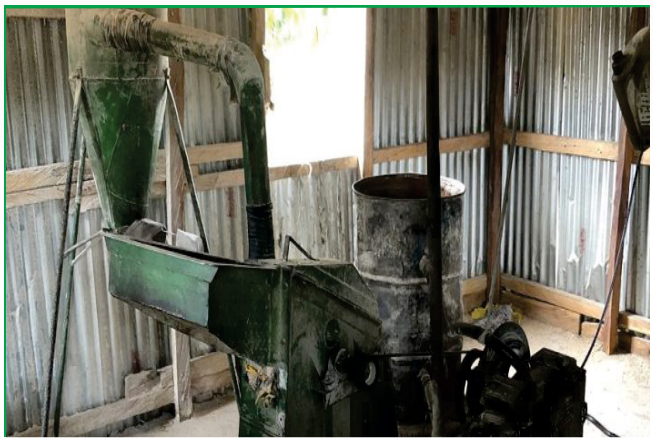
TOTAL = 1,227,465

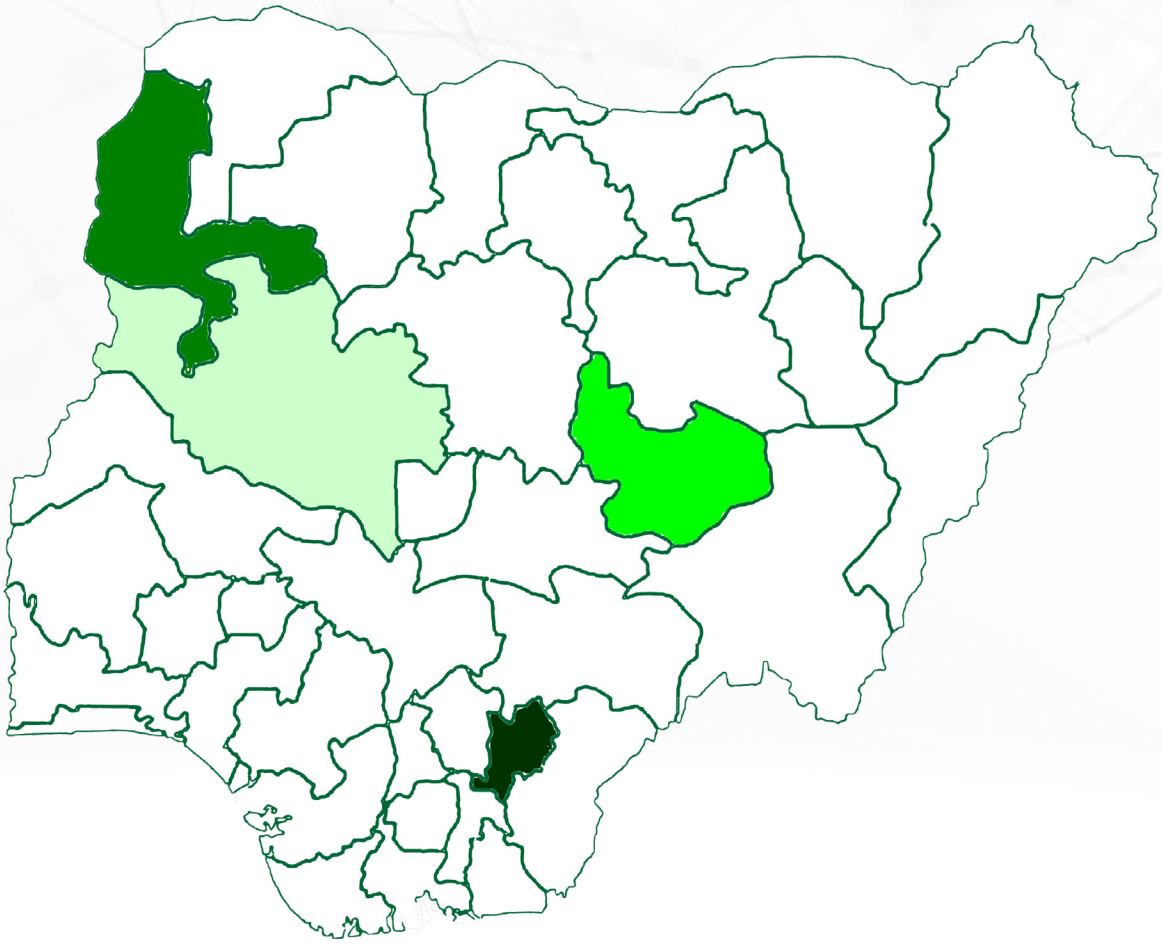
Click Here

Over 1 million Standalone Solar Homes Systems have been installed, powering households, MSMEs and public facilities. The capacity of the systems ranges from 6Wp to 1,800Wp translating to over 24,176.152kW (24.1MW) of installed capacity across the 36 states in Nigeria. The Agency delivered on over 95% of the NEP-SHS impact between the year 2020 and 2022. The NEP-SHS component is one of the fastest growing component being implemented by the Agency.

Catalyzing PUEs in Off-grid Communities

The Nigeria Electrification Project's "Results-Based Financing for Productive Appliances & Equipment" component aims to increase the productive use of energy in remote communities by increasing access to efficient, electric productive equipment. The component targets to electrify 24,500 MSMEs and 1,050,000 with improved access to energy services from productive use systems. This component is designed to increase the productive use of energy (PUE) in rural communities by facilitating access to energy-efficient, electric productive equipment; encourage developers to make productive use of power and energy-efficient appliances part of their overall strategy for mini-grid viability; and activate the energy-efficient productive use appliance and equipment market.





PILOT LOCATIONS

- **Rokota, Niger**
- **Kare, Kebbi**
- **Shimankar, Plateau**
- **Obeagu Isu, Ebonyi**

PUES DEPLOYED

36

CAPACITY ADDED

31.7kW

Examples of PUE Technologies Explored

- Palm oil and palm Kernel processing machines
- Welding Machines
- Hair Clippers
- Green House
- Freezers

Click Here

The focus of the PUE Component is mini grid demand stimulation and is therefore geared towards facilitating the deployment of PUEs in mini grid communities.

IMPACT IN NUMBERS – THE NEP SNAPSHOT

~5,000,000
NIGERIANS ELECTRIFIED

1,021,510
TOTAL CONNECTIONS

52MW
TOTAL PV CAPACITY DEPLOYED

36
STATES + FCT IMPACTED

1, 227,465
TOTAL SHS DEPLOYED

67
MINI GRIDS COMPLETED

26
CONTAINERIZED SOLAR SYSTEMS DEPLOYED TO HEALTH FACILITIES

36
PUE's DEPLOYED INCLUDING FIRST OF ITS KIND GREENHOUSE

569
APPLICATIONS RECEIVED

267
GRANT AGREEMENTS SIGNED

7
EPC CONTRACTS SIGNED FOR EEP PHASE II

RFB DEVELOPED FOR EEP PHASE III

RFP ISSUED FOR MST UNDER WB AND DEVELOPED FOR MST AFDB

328,765
FEMALE HEADED HOUSEHOLDS ELECTRIFIED

1,206
FEMALE HEADED MSMEs ELECTRIFIED

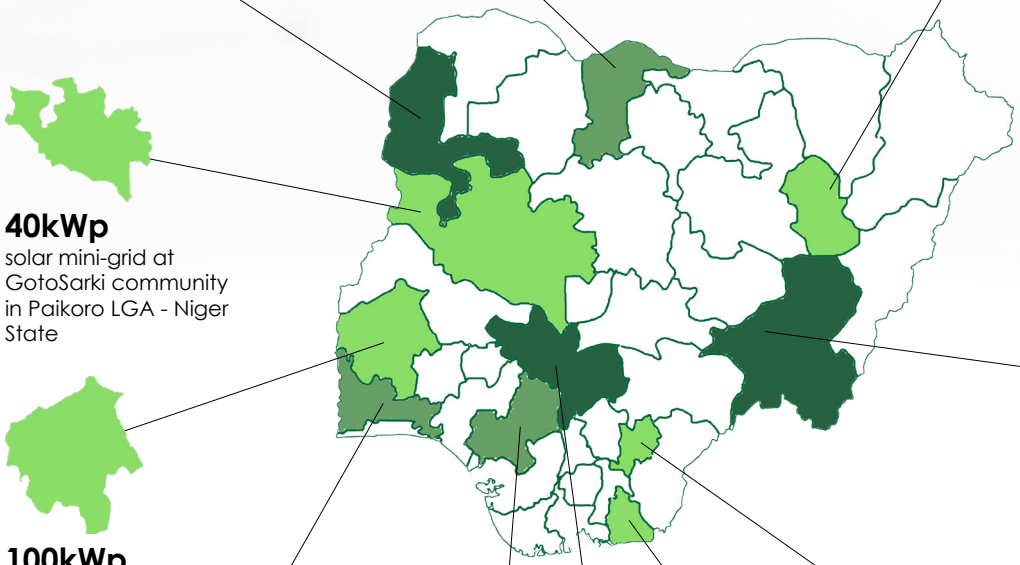
1,151
JOBS CREATED

249,193
TONNES OF CO2 eq. SAVED

Delivering Impact through the Rural Electrification Fund (REF)

Between 2020 and 2021, the REA prioritized the completion of all projects under the 1st Call of the Nigeria Government's Rural Electrification Fund (REF) and equally secured approval for the activation of the 2nd REF Call, with implementation of REF Call 2 now ongoing.

Mini-Grid Deployed Under REF Call 1



30kWp
Solar mini-grid at Bambami village in Batagarawa LGA - Katsina State

90kWp
kWp solar mini-grid at Kare and Dadin Kowa villages in Arewa LGA - Kebbi State

85kWp
solar mini-grid at Dakiti community in Akko LGA - GOmbe State

40kWp
solar mini-grid at GotoSarki community in Paikoro LGA - Niger State

91kWp
solar hybrid mini-grid in Sarkin Kudu community, Ibi LGA - Taraba State

100kWp
solar hybrid mini-grid at Budo Are community in Itesiwaju LGA - Oyo State

100kWp
solar hybrid mini-grid at Olooji community in Ijebu East LGA - Ogun State

100kWp
solar hybrid mini-grid at Akpabom community in Onna LGA - Akwa Ibom

100kWp
solar mini-grid at Eka-Awoke community, Ikwo LGA - Ebonyi State

100kWp
solar mini-grid at Achara communities in Onicha LGA- Ebonyi State

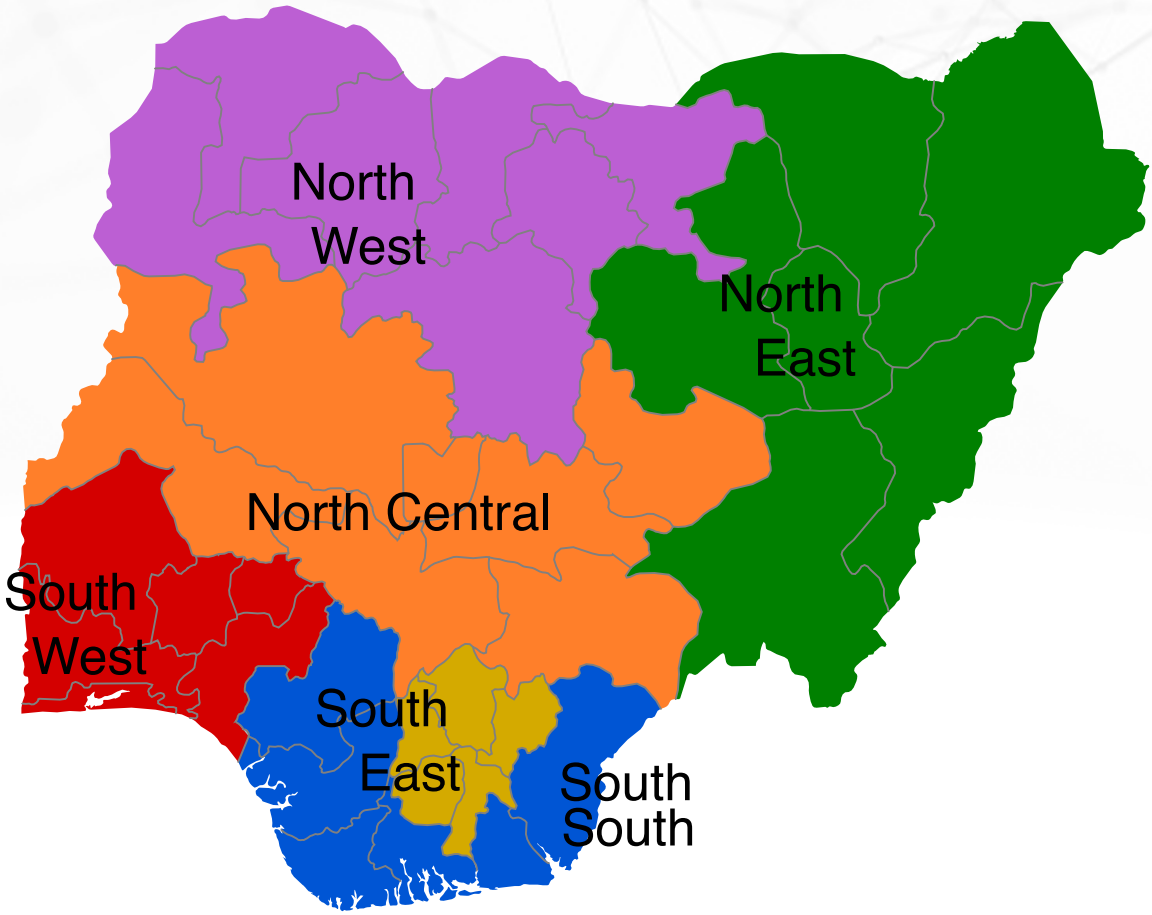
100kWp
solar hybrid mini-grid at Adebayo community in Ovia South LGA - Edo State

80kWp
solar mini-grid at an isolated community in Upake, Ajaokuta LGA - Kogi State

Click Here

Upon completion of all REF Call 1 projects (mini-grids and SHS), the Agency connected 24, 000+ households to clean, safe and reliable energy. 5, 000+ renewable energy jobs were created during the construction phase of these projects while about 1,140Kg of Co2 emission was saved. 9 out of the 12 REF Call 1 solar hybrid mini-grids were delivered between 2020 and 2021. These projects have catalyzed socio-economic activities across the beneficiary communities

SHS Units Deployed Under REF call 1



4,335 units of 15W, 20W, 40W SHS

1,900 units of 20W SHS

3,300 units of 15W SHS

3,445 units of 15W, 20W SHS

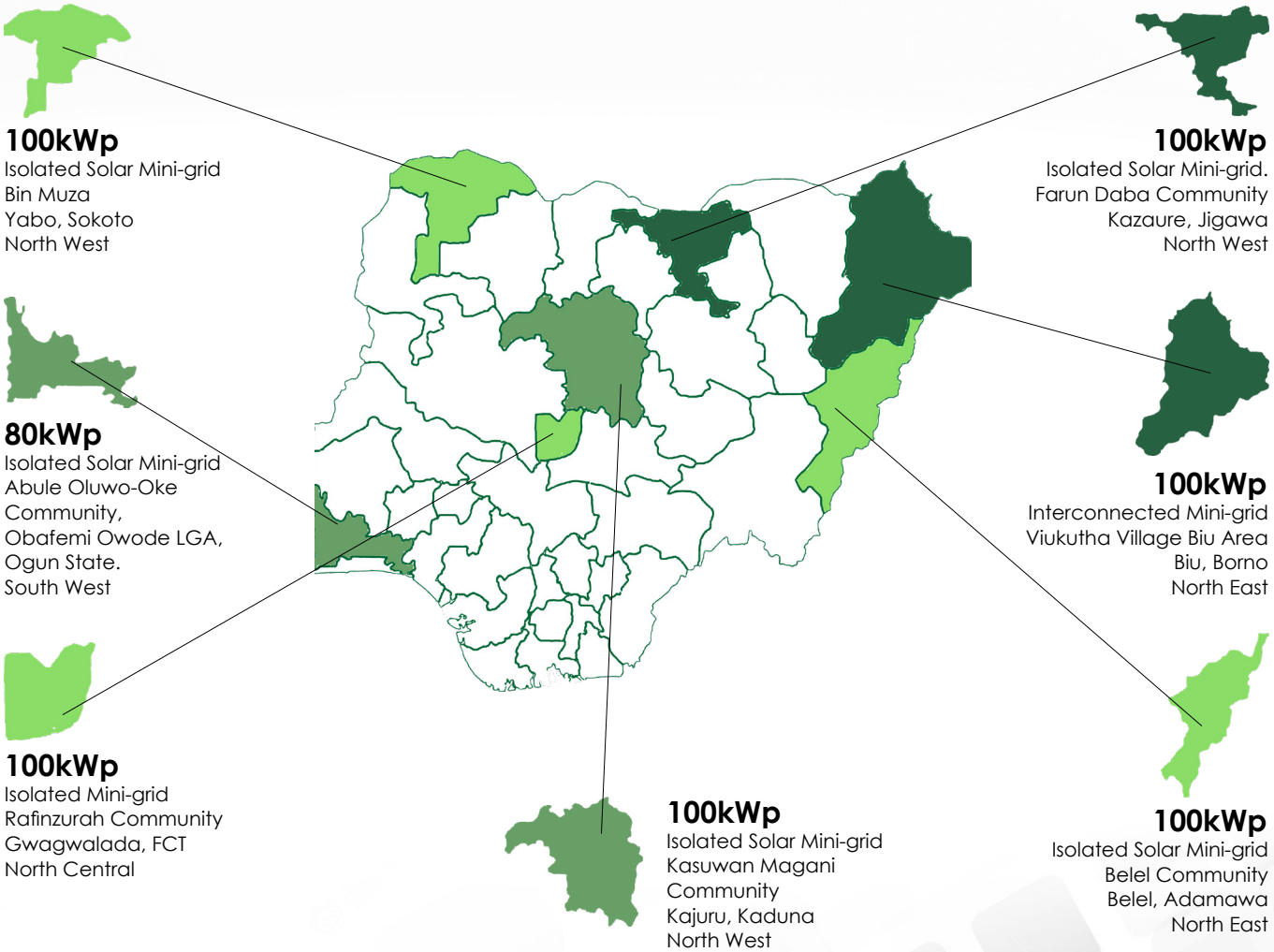
2,400 units of 15W SHS

3,370 units of 15W, 20W SHS

TOTAL = 18,750

Implementing REF Call 2

Having secured approval for the 2nd Call of the Rural Electrification Fund (REF Call 2), the REA has kick-started the delivery of the objectives of this Call. This Call is deliberately targeted at delivering on both infrastructure and none infrastructure projects (Grid Extension, Mini Grids, Interconnected Mini-grids and Stand Alone Systems) as well as innovative programmes that align with the REA Mandate. Upon completion, 51 mini-grids would be deployed, earning 17,000 additional renewable energy connections across the country. With work ongoing in beneficiary communities across the country, 7 out of the 51 projects have been successfully completed.



Upon completion of this Call, 51 additional mini-grids will be deployed and over 17, 000 additional renewable energy connections achieved. Implementation of the 2nd REF Call is underway, with 7 out of the 51 solar mini-grids already completed

Implementing the Federal Government's Capital Projects

As part of its mandate, the REA is tasked with equitably implementing electrification projects, leveraging the Federal Government's Capital Appropriation. Over the years, the implementation of Capital Projects has evolved from the traditional grid extension solutions to more renewable, data-driven electrification solutions such as solar hybrid mini-grids, standalone solar home systems as well as solar-powered streetlights.

2020






	North-Central	North-West	North-East	South-West	South-East	South-South
GRID	32	18	28	23	16	26
SOLAR STREET LIGHT(SSL)	6	2	3	1	2	4
SOLAR MINI GRID (SMG)	8	10	6	7	6	5
SOLAR HOME SYSTEMS (SHS)	60	73	61	36	47	20
TOTAL	106	103	98	67	71	55

2021






	North-Central	North-West	North-East	South-West	South-East	South-South
GRID	46	32	24	24	38	28
SOLAR STREET LIGHT(SSL)	1	1	-	1	2	2
SOLAR MINI GRID (SMG)	1	1	-	-	5	1
SOLAR HOME SYSTEMS (SHS)	31	51	27	24	31	32
TOTAL	79	85	51	59	76	63

2022






	North-Central	North-West	North-East	South-West	South-East	South-South
GRID	37	25	32	13	28	16
SOLAR STREET LIGHT(SSL)	53	63	48	56	33	45
SOLAR MINI GRID (SMG)	4	4	1	2	7	9
SOLAR HOME SYSTEMS (SHS)	4	4	1	1	2	2
TOTAL	98	96	82	72	70	72

Making Impact Through The Programmatic Budgeting Framework

In line with Federal Government's efforts targeted at socio-economic impact, the REA kicked off the deployment of projects through a programmatic approach to ensure that the Economic Recovery and Growth Plan (ERGP)/Economic Sustainability Plan (ESP) principles and targets are fulfilled. In 2022, the REA kicked off the delivery of these projects, targeted at agricultural clusters, irrigation farms, communities, and internally displaced locations.

Programmatic Budgeting Impact

Solar Mini-Grids

100kWp
solar mini-grid.
Wakili Gurin, Adamawa State

100kWp
solar mini-grid.
Kaida, FCT

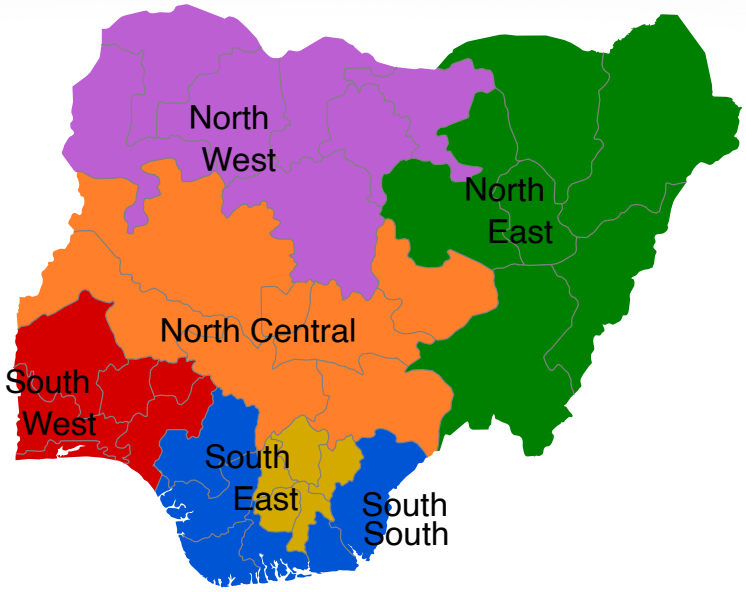
100kWp
solar mini-grid.
Umumbo, Anyamelum LGA, Anambra State

100kWp
solar mini-grid.
Sangelu, Kebbi State

100kWp
solar mini-grid.
Assiga, Cross River State

100kWp
solar mini-grid.
Ijebu, Odogbolu LGA, Ogun State

Solar Home Systems (SHS), Solar Powered Streetlights (SSL) and Solar Powered Irrigation Pumps



SHS

338	338
354	338
338	338

SSL

107	107
112	107
107	107

PUMPS

225	225
225	267
225	225

4 of the 6 solar hybrid mini-grids to be delivered through this framework have been completed, over 1,000 solar-powered irrigation pumps already deployed. Over 1,000 and over 800 solar home systems and solar-powered streetlights have been deployed, respectively. To deliver on these projects effectively and equitably, the REA continues to worki alongside the Federal Ministry of Humanitarian Affairs, Disaster Management and Social Development as well as the National FADAMA Development Offfice

Impact Snapshot of the Programmatic Framework

30%+
increase in yield for farmers through the use of solar-powered irrigation pumps.

50%+
increase in profitability for farmers due to transition to more affordable, renewable source of power.

Easy accessibility of the solar-powered water pumps for women and youths to get into farming.

2+
active women farmers in each cluster who are beneficiaries of these pumps.

7+
active women farmers in each cluster who will benefit from these pumps indirectly

300+
neighborhoods, including schools, markets, hospitals and pathways already illuminated through the deployment of solar-powered streetlights

Reduction of carbon emission

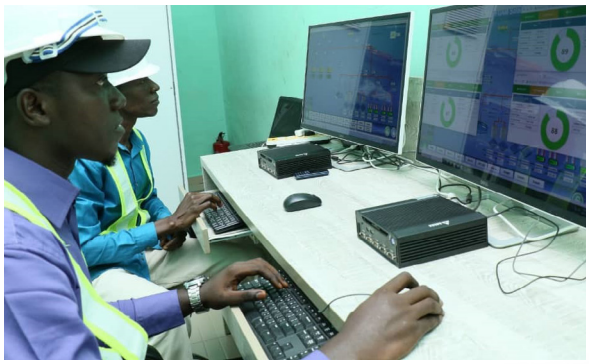
Increase in economic activities in the beneficiary communities.

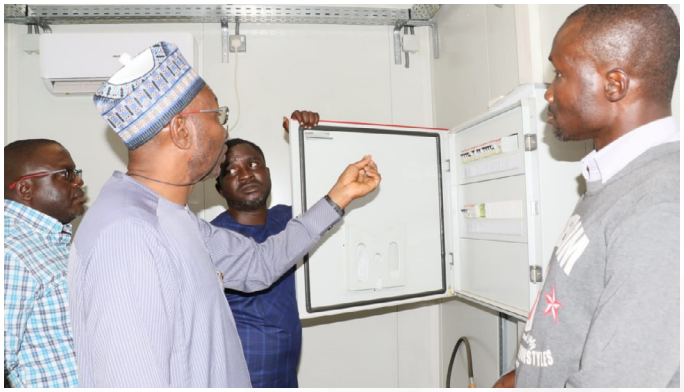
Improved and inclusive renewable energy skills transfer to farmers and community members.

Increased study time for School children in beneficiary communities.

Improving Energy Access in Universities through the Energizing Education Programme (EEP)

Between the year 2019 and 2022, five (5) universities were energized with clean, safe and reliable energy with funding from the Federal Government's Green Bond. Beyond accelerating the delivery of these projects, within this period, the World Bank and the African Development Bank have equally committed to funding phases II and III of the EEP, respectively. These phases will energize 15 additional Federal Universities and 2 affiliated University Teaching Hospitals.





Solar Hybrid Power Plant Deployed through EEP I

1.1MW Solar Hybrid Power Plant
Abubakar Tafawa Balewa University Bauchi State (ATBU)

1.1MW Solar Hybrid Power Plant
University Petroleum Resources Effurun Delta State (FUPRE)

8.3MW Solar Hybrid Power Plant
University of Agriculture, Makurdi, Benue State (FUAM)

4.4MW Solar Hybrid Power Plant
Usmanu Danfodiyo University Sokoto State (UDUS)

4.4MW Solar Hybrid Power Plant
Nnamdi Azikiwe University Anambra State (NAU)

7.1MW Solar Hybrid Power Plant
Bayero University Kano State (BUK)

2.8MW Solar Hybrid Power Plant
Alex Ekwueme Federal University Ndufu-Alike Ikwo (AE-FUNAI), Ebonyi State.

Click Here

7 out of the total 9 Energizing Education Programme (EEP I) projects have been delivered, with projects already being handed over to the management of the beneficiary institutions for onward sustainability after the contractual one-year tenure of operations and maintenance, according to the programme design. 5 out of the 7 EEP 1 projects listed were completed between the year 2020 and 2022.

Implementing EEP II, Powering More Institutions

In a bid to deepen the impact of the Energizing Education Programme (EEP), providing clean, sustainable energy to federal universities and university teaching hospitals, the 2nd Phase of the programme is underway, designed to energize (7) additional Federal Universities and two (2) University Teaching Hospitals, across all 6 geopolitical zones. The Federal Government, through the support of the World Bank, has kicked-off the implementation of the programme. This is to cover; the Engineering, Procurement & Construction (EPC) of the power plants, provision of streetlights to improve security within the universities, rehabilitation of existing distribution infrastructure within the universities, one-year operations and maintenance of the power plant, and the construction of a world-class workshop & training centres. All EEP II sites have been officially handed over to the project contractors for the commencement of the project.

EEP II Beneficiary Institutions

3.0MW Solar Hybrid Power Plant
South-West - Federal University of Agriculture, Abeoukuta, Ogun State

3.0MW Solar Hybrid Power Plant
South-East - Michael Okpara University of Agriculture, Umudike, Abia

7.0MW Solar Hybrid Power Plant
South-South - University of Calabar and Teaching Hospital, Cross River

12.0MW Solar Hybrid Power Plant
North-East - University of Maiduguri & Teaching Hospital, Borno

3.0MW Solar Hybrid Power Plant
North-Central - University of Abuja, FCT

1.5MW Solar Hybrid Power Plant
North-East - Federal University Gashua, Yobe

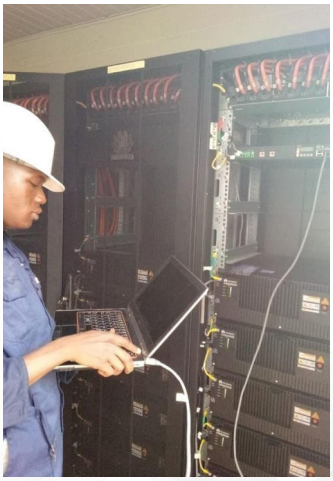
2.0MW Solar Hybrid Power Plant
North-West - Nigerian Defence Academy, Kaduna.

Click Here

Leveraging on lessons learned from EEP I, while improving upon the project design, the EEP II will equally deliver hybrid solar power plants, workshop and training centers (WTCs), upgrade of existing distribution infrastructure as well as deployment of solar-powered streetlights for illumination and security across the campuses. 20 Female STEM Interns will equally be trained and certified in each of the beneficiary institutions

Powering Health, COVID-19 and Beyond

At the onset of the COVID-19 outbreak, President Muhammadu Buhari outlined the intervention and palliative measures of the Federal Government of Nigeria (FGN). The President also called for inter-agency collaboration on the fight against the pandemic. Beyond the intervention effectively deployed by the REA in 2020, the Agency, through the support of the World Bank and under the Nigeria Electrification Project (NEP), activated the "COVID-19 and Beyond" Programme.



Projects Deployed through the "COVID-19 and Beyond" Programme

REA's Initial COVID-19 Emergency Intervention

53.1kWp	25kWp	20kWp	10kWp
University of Abuja Teaching Hospital Isolation Center	NCDC Public Health Laboratory in Lagos	128 Bed Ikenne Isolation Center	Iberekodo Isolation Centre in Ogun state

"COVID-19 and Beyond" Projects

50KWP	50KWP	50KWP	50KWP	50KWP	50KWP
Specialist Hospital, Irrua	Stella Obasanjo Hospital	Rivers State University Teaching Hospital	Asaba Specialist Hospital	Federal Medical Centre Yenagoa	Nigerian Navy Reference Hospital
50KWP	**50KWP**	**50KWP**	**50KWP**	**50KWP**	**50KWP**
Ogoli General Hospital	University of Calabar Teaching Hospital	Okolobiri General Hospital	Ibom Specialist Hospital	Bayara General Hospital	Federal Medical Centre
50KWP	**50KWP**	**50KWP**	**50KWP**	**50KWP**	**50KWP**
Specialist Hospital Jalingo	Wukari General Hospital	Federal Medical Centre Katsina	Amadi Rimi Specialist Hospital	Daura General Hospital	Kebbi Medical Centre Kalgo
50KWP	**50KWP**	**50KWP**	**50KWP**	**50KWP**	**50KWP**
Sir Yahaya Hospital Birnin Kebbi Medical Centre	Infectious Diseases Hospital Amanawa	Wamako Orthorpedic Centre	Federal Medical Centre Zamfara	Yeriman Bakura General Hospital	Delta State University Teaching Hospital

Click Here

The COVID-19 outbreak further revealed the energy gap in healthcare, which hampers the delivery of quality healthcare services nationwide. In March 2020, the REA deployed 4 mini-grids as part of the Agency's emergency intervention. Beyond these initial interventions, over 27 contanerized solar hybrid mini-grids have now been deployed across the nation under the ongoing implementation of the "COVID-19 and Beyond"Programme. Upon completion, 100 isolation/treament centers and 400 Primary healthcare Centers will be energized.

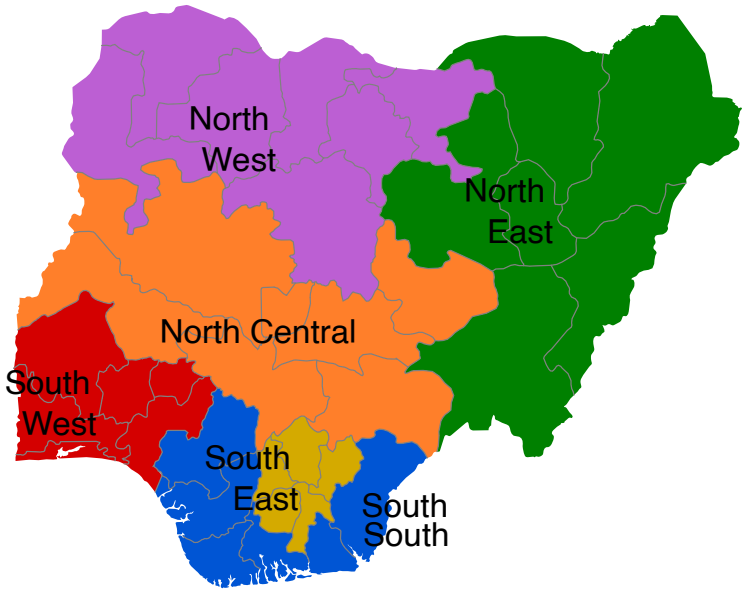
Energy for All – 'Mass Rural Electrification' Programme

Amid the coronavirus (COVID-19) pandemic, the Federal Government of Nigeria (FGN) launched the Economic Sustainability Plan (ESP) initiative to support the country's economic recovery through several interventions, including electrification programmes.

Through these electrification programmes, health centres, unity schools and communities are already being strengthened and energized with reliable power to deal with health cases, while providing a conducive environment for quality education and improved standard of living.

The Federal Government, through the REA, is implementing this programme to deploy solar projects in primary healthcare centres, unity schools and households in vulnerable off-grid communities across the country. A total of **196** solar mini-grids systems ranging from **5kW to 15kW** have been awarded for deployment across Health Centres in the 6 Geopolitical zones.

A total of 104 Unity Colleges were awarded 20 Solar Home Systems each. While a total of 104 Unity Colleges, 195 Health Centres and 34 communities were awarded some stands of solar streetlight systems each.



42 Total Mini grid projects deployed

45 Total Mini grid projects deployed

43 Total Mini grid projects deployed

24 Total Mini grid projects deployed

22 Total Mini grid projects deployed

20 Total Mini grid projects deployed

TOTAL = 196 Mini grid projects deployed

Out of the 196 mini-grids planned for this Programme, 162 have been completed across the country. A total of 104 Unity Colleges were equally awarded 20 Solar Home Systems each. While a total of 104 Unity Colleges, 195 Health Centres and 34 communities were awarded some stands of SLS systems each.

Powering Economies for Sustainable Growth

Having delivered on the 1st Phase of the Energizing Economies Initiative (EEI), powering 8 markets across the country and connecting thousands of SMEs, the REA fell back on the power of data and feedback to strengthen the programme for better delivery of the 2nd Phase of the Programme. As part of this data-driven approach, the REA, in collaboration with the Rockefeller Foundation have audited a total of 116 markets viable for the next phase of the Programme. In 2022, Senator John Kerry, 68th U.S. Secretary of State and the Special Presidential Envoy for Climate, Engr. Ahmad Salihijo Ahmad, the MD/CEO of the Rural Electrification Agency (REA) and other key stakeholders went on a tour of the new EEI project, a 1MW inter-connected solar hybrid mini-grid designed to power the popular Wuse Market in Abuja. This intervention is targeted at cutting down on C02 emissions from diesel-powered generating sets in the market while aiding economic growth through sustainable energy access. The Energizing Economies Initiative (EEI) is a Federal Government of Nigeria initiative being implemented by the Rural Electrification Agency (REA). The initiative aims to support the rapid deployment of off-grid electricity solutions to MSME's in economic clusters (such as markets, shopping complexes and agricultural/ industrial clusters), through private sector developers.

Deepening the REA Mandate

Deepening the REA Mandate

As part of the Agency's data-driven approach to off-grid electrification, and in line with the 5-year running strategy designed to connect vision with action, 5 new programmes, 1 Official Development Assistance (ODA), 1 Research and Innovation hub and 1 new budgeting process were introduced between the years 2020 and 2022. Through these, the Agency continues to deepen its mandate while recording real socio-economic impact nationwide.

5 New Programmes

1 ODA

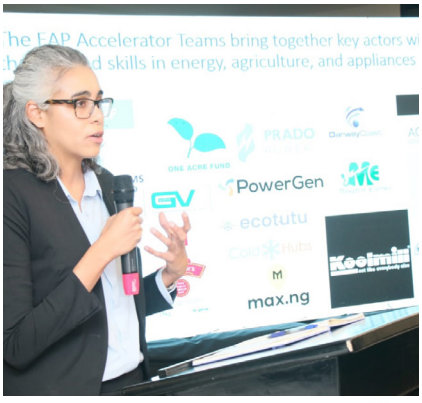
1 New Innovation Hub

1 New Budgetting Processes

Energizing Agriculture Programme (EAP)

Designed to boost GDP, accelerate Renewable Energy and unlock Agricultural Productivity in Nigeria, the EAP is a 3-year initiative activated in 2022 with support from the Rocky Mountain Institute (RMI), the Global Energy Alliance on People and Planet (GEAPP) and the Rockefeller Foundation. The EAP focus is on enabling market-led solutions and breaking the silos separating electrification and agricultural development. Over the next three years, the EAP initiative will foster a pipeline of agriculture-energy projects that demonstrate the impact of collaborative development efforts across the energy and agriculture sectors. Across these activities, the EAP is designed to ensure local ownership of solutions and scaling by partnering widely and sharing insights broadly.

The delivery of the EAP is now underway with data-driven groundwork such as surveys and holistic assessments being carried out by a team of enumerators, assessing viable clusters across the country.

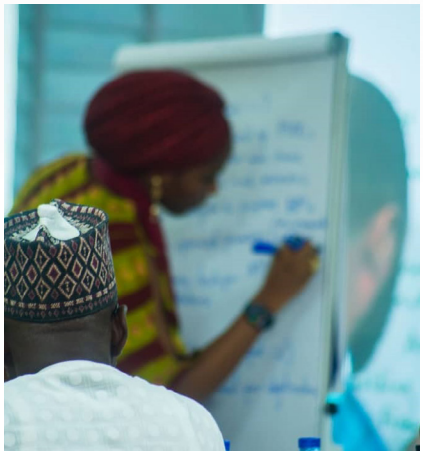


Derisking Sustainable Off-Grid Lighting Solutions (DSOLS)

With finance from the Global Environment Fund (GEF) and the United Nations Development Programme (UNDP), the DSOLS was activated in 2022, designed to develop a private sector-led technology value for making off-grid renewable energy technologies, such as solar lanterns and solar home systems, available to base-of-pyramid rural households who would not be electrified at least until after 2025. Ultimately, this project will directly support the implementation of the Rural Electrification Strategy and Implementation Plan (2016) and the energy access targets in the SE4All Investment Prospectus. The project rationale is underpinned by a novel approach to derisk private sector investments in the market for rural decentralised renewable energy access.

Africa Mini-Grid Programme (AMP)

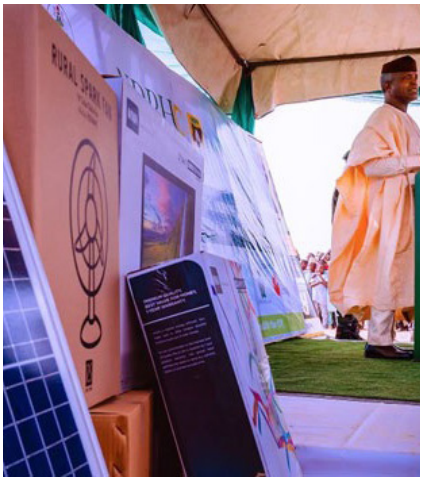
A 4-year project funded by the Global Environment Facility (GEF) and supported by the United Nations Development Programme (UNDP) in Nigeria, the AMP was activated in 2022 to expand energy access across Nigeria through increased financial viability and scaled-up commercial investment. The programme aims to support access to clean energy by increasing the financial viability, and promoting scaled-up commercial investment, in renewable energy mini-grids, with a focus on cost-reduction levers and innovative business models. The programme is active in 21 African Countries and the Nigeria national project implemented by the REA is the first to commence implementation.




Recovering Better Through The SPN

As a strategic reaction to the COVID-19 pandemic, the Federal Government of Nigeria, in 2020, activated the Economic Sustainability Plan. This plan was designed to mitigate the adverse socio-economic effect of the COVID-19 pandemic on Nigerians. A key intervention under the ESP is the Solar Power Naija Programme (SPN), an electrification strategy designed for additional off-grid electrification, nationwide.



The SPN Objectives

1. Increase energy access through 5 million new solar connections serving about 25 million individual Nigerians who are currently not connected to the National Grid.
2. Increase local content in the off-grid solar value chain which will include the assembly/manufacturing of components of off-grid solutions to facilitate the growth of the local manufacturing industry, while the use of local content will be incentivized.
3. Create 250,000 new jobs in the energy sector. Solar equipment manufacturers/assembler will be incentivized to set up facilities in Nigeria, offering additional job opportunities to Nigerians.

Funding

N140billion, lending facility from the Federal Government through the Central Bank of Nigeria (CBN). The CBN, the primary source of funding for downstream developers, is equally making preferential affordable interest rates between 5% - 10% available to companies involved in the energy/power sector.

The SPN Update

- Deployment of 100,000 SHS units is underway across 20 states in the country
- A Memorandum of Understanding (MoU) signed with Infrastructure Credit Guarantee Company Limited (InfraCredit), a third-party guarantor for approved developers under the SPN programme to eliminate bottlenecks in off-grid infrastructure financing.
- A Memorandum of Understanding (MoU) signed with the Nigeria Sovereign Investment Authority (NSIA), to invest an additional N10 billion into the programme to provide over 200,000 solar home systems for homes under the 'Solar Power Naija' programme.
- A Memorandum of Understanding (MoU) signed with the Nigerian National Petroleum Company (NNPC) Ltd supporting three SPN initiatives to connect more under-served Nigerians. This particular transaction seeks to facilitate investments worth about N22 billion for at least 215,000 households nationwide through the provision of an estimated 30 megawatts (MW) solar power to Maiduguri in order to help solve the current electricity crisis and 125,000 SHS units.

“COVID-19 and Beyond”

As a strategic reaction to the COVID-19 pandemic, the Federal Government of Nigeria, in 2020, activated the Economic Sustainability Plan. This plan was designed to mitigate the adverse socio-economic effect of the COVID-19 pandemic on Nigerians. A key intervention under the ESP is the Solar Power Naija Programme (SPN), an electrification strategy designed for additional off-grid electrification, nationwide.

Objectives of the “COVID-19 and Beyond” Programme

1. **100**
Isolation/treatment centres and 400 PHCs to be electrified.

2. **30,000+**
beds to be served.

3. **1,185,600**
patients to be served.

4. **15MW**
of new installed off-grid power to be deployed.

5. **13,000+**
direct and indirect jobs to be created in the health sector.

The KIAT ODA

After months of productive engagements with the Federal Government, facilitated by the Federal Ministry of Power, through the Rural Electrification Agency (REA), a Memorandum of Understanding (MoU) was officially signed between the Korean Institute for Advancement of Technology (KIAT) and the Nigerian Government in 2022. The MoU, detailing the terms of the Official Development Assistance (ODA) will provide premium-grade mini-grid projects designed to deliver a total renewable energy capacity of 1.6MWp and 3.0MWhr system across 4 main communities in Abuja and environ.

Designed as a holistic and sustainable project, the Official Development Assistance (ODA) project is designed to have the first large scale solar mini-grid in the country. In addition to a state-of-the-art energy management system (EMS) capable of hosting all mini-grids in the country, auxiliary services, such as productive appliances including milling, grain, drying, water systems, lighting and smart metering devices.







Key Stakeholders

Federal Ministry of Power, the Rural Electrification Agency (REA), the Ministry of Budget and National Planning (BNP) and the Korean Institute for Advancement of Technology (KIAT)

Technology Type

Standalone solar mini-grids

Mode of Support

In-kind project; ODA

Beneficiary Communities

Rubochi/Tika, Wako/Kwaita Sabo, Ikwa/Goyan, and Kugbaru communities

Project Delivery Timeline

45 months

Research And Innovation Hub

The REA's Research and Innovation Hub was activated in the year 2021. The Hub seeks to harvest and nurture innovative approaches to rural electrification by providing grant funding and other non-financial support to support promising renewable energy technologies, systems and business models and related research in a bid to improve rural electrification and/or development. Since innovation is never a single event; it is a long cumulative and iterative process that is stimulated through forethought, experimentation and subsequent experiential and observational learning. The REA is following a structured approach that entails monitoring, evaluation and learning (ME&L) and critical research. The failures and successes of this process become learning opportunities and the associated circular transfer of knowledge plays a key role in the effort to establish a sustainable rural electrification market. Underpinned by this principle, the REA continues to leverage the Hub for Open Research Calls, Technology Demonstration and University Challenges.

6 Technology Demonstrations Completed

Solar Powered Water Purification Technology
Minibie Community, Brass LGA, Bayelsa State
South South.

Solar Powered Irrigation Scheme
Kibiya Community, Kibiya LGA, Kano
North West

E-Mobile Support -Solar Powered Tricycles
Federal University Lokoja, Kogi State
North Central

Bio-Metheanization Mini-Grid
Amaorji, Isialangwa North, Abia State.
South East

Biomass Gasification Hybrid Mini-Grid
Mayo Ine, Fufore LGA, Adamawa State
North East

Stand Alone Solar Powered Cold Storage
System, Awoye Community, Ilaje LGA, Ondo State, South West

6 Research Publications Funded

Decentralized Renewable Energy Delivery Mechanism, Management And Funding
Scalable and characterization methods and tools for remote monitoring of off grid technologies (Thesis Report)

Decentralized Renewable Energy Delivery Mechanism, Management And Funding
Design and implementation of an integrated hybrid renewable energy system (h-res) with storage for stand-alone application in remote villages in Nigeria (Thesis report)

Business Model And Sustainability
Development of biocatalyst for optimum biogas production (Thesis Report)

Business Model And Sustainability
Effect of consumer service quality enhancement on continuous payment intention of mini off grid electricity tariffs - a case study of jangefe mini off-grid electrification project (Thesis Report)

Impact Assessment
Empowering women with solar home systems: A Nigerian perspective (Thesis Report)

Impact Assessment
Economic impact valuation of rural electrification projects in Nigeria (Thesis Report)

The Programmatic Budgeting Process

The Rural Electrification Agency's (REA) electrification projects, appropriated in the national budget, are stand-alone and rarely grouped into programmes (of projects) that are targeted at sectors of the economy. These programmes are expected to achieve set objectives and impact (including the fulfilment of the Economic Recovery and Growth Plan/ Economic Sustainability Plan tenets, improvement of livelihoods in rural areas, stimulation of economic growth, as well as development and alignment with the Federal Government of Nigeria's priorities).

In line with the recent strategy and efforts to deliver projects through a programmatic approach and to ensure that the Economic Recovery and Growth Plan (ERGP)/Economic Sustainability Plan (ESP) principles and targets are fulfilled, the Agency's strategic initiative is to improve livelihoods, specifically in rural communities, through programmes targeted at providing electricity for productive use in healthcare centres, markets, schools, agriculture, etc., in a sustainable and impactful manner.

Objectives of the Programmatic Budgeting Framework

1. **6** mini-grids to be deployed across the 6 zones.
2. **1,300+** solar-powered irrigation pumps to be deployed.
3. **1,200+** solar streetlights to be deployed.
4. **2,000+** solar home systems to be deployed.

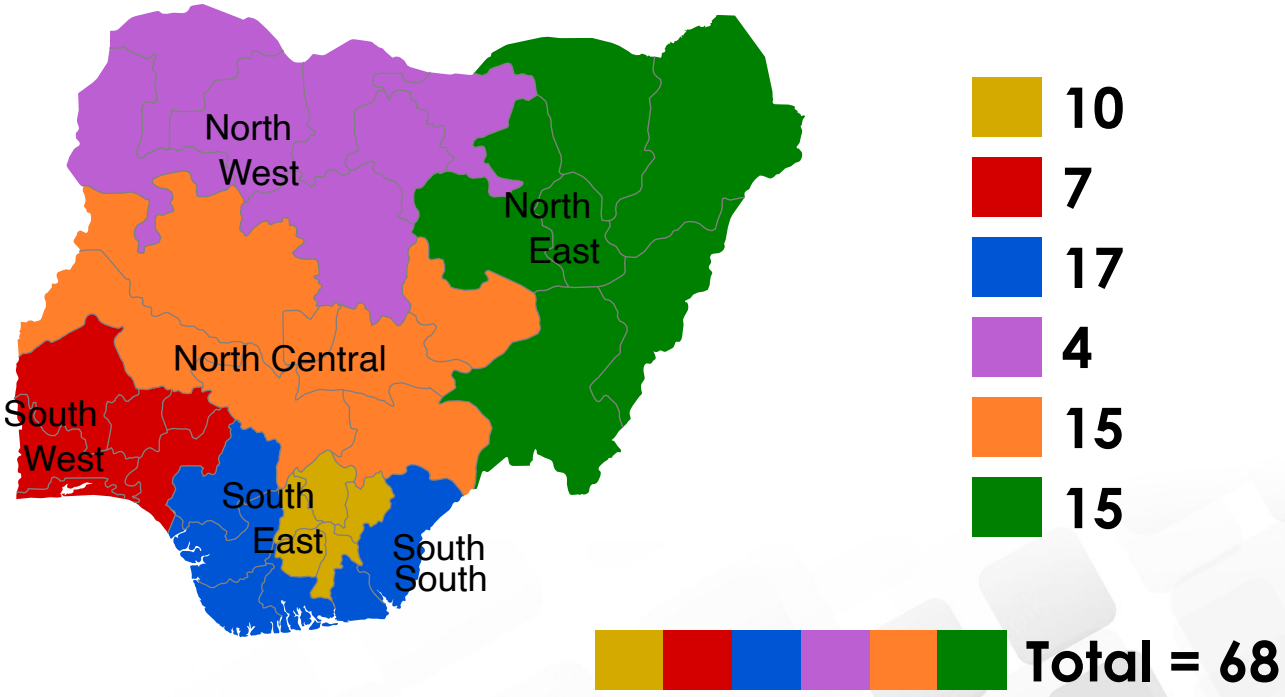
Sustaining Impact Through REUCS

One of the key sustainability mechanisms the REA continues to use is the Rural Electricity Users Cooperative Society (REUCS, a home-grown initiative of the REA that is aimed at mobilizing benefiting communities to achieve sustainability of electrification projects. In pursuit of its vision and mandate of achieving universal access to affordable and sustainable electricity while improving the quality of life and economic opportunities for unserved and underserved communities, the Agency carries out community engagement exercises and campaigns to mobilize and sensitize rural communities across the country to form REUCS.

Objectives of the REUCS

1. To promote community participation in rural electrification projects through training on ownership, operation, maintenance and safety of facility (where applicable)
2. Enable community members to learn about productive usage of electricity as well as educate members on energy conservation and efficiency
3. Ensure community members work together to protect electricity equipment against theft and vandalization
4. To partner with Electricity Distribution Companies and Independent Power Producers (IPPs) in their localities for the provision of electricity at an affordable price.
5. Ensure prompt payment of electricity bills by members and also through the cooperative society (where applicable).
6. Encourage all relevant stakeholders to work together to solve community electricity related problems.

REUCS Registered Between 2020 and 2022



Click Here

Since the REUCS was officially created, over 1,063 communities across the Six (6) geo-political zones of the country have been sensitized by the Agency, with a total of 145 certified REUCS formed and registered. The REA continues to effectively optimize these REUCS for sustainability and community sensitization on productive use of energy

RURAL ELECTRIFICATION AGENCY

ENERGY = EMPOWERMENT = EFFICIENCY

To keep up with the REA click the channels below