

# Clinic 4 | Energizing Education

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# Agenda

- Introduction
- Presentation on the Energizing Education Programme
- Breakout Session: Discuss Key Questions
- Report Out
- Closing Thoughts



**RURAL ELECTRIFICATION AGENCY**

ENERGY = EMPOWERMENT = EFFICIENCY

# ENERG--ZING EDUCATION

A RURAL ELECTRIFICATION INITIATIVE

December 2017

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- 3 Responsibilities
- 4 Next Steps

## Federal Universities & Access to Power

- Adequate supply of electric power has repeatedly been cited as a major challenge and barrier to effective learning in our federal universities.
- Students have had limited access to; powered technical labs, internet connection/online resources and high powered equipment, to name a few.
- Consequently, the FGN is keen on facilitating the provision of reliable, affordable and sustainable power supply to Nigerian educational institutions.
- To address this issue the Energizing Education Programme was created.

## What is Energizing Education?

- Generation and provision of adequate power supply (**89.6MW**) to **37 federal universities** (the “Universities”) and **7 university teaching hospitals** across the Federal Republic of Nigeria.
- Provision of street lighting to promote and facilitate safe, secure and productive learning environments.
- Development and operation of training centers to train university students, towards jumpstarting a cycle of in-campus self-sufficiency and renewable energy technology innovations.



## Project Benefits



1. Improvement in the quality of educational systems at a tertiary level, in line with international best practice
2. Promotion of a decentralized, multi-demographic approach to infrastructure delivery in line with the National Rural Electrification Strategy
3. Timely delivery of these projects will strengthen the FGN's resolve to improve both the power and educational sectors
4. Access to reliable power supply can be enjoyed by universities within **12-18 months**
5. **Improved security** through the presence of street lighting
6. Provides additional training by renowned companies on renewables
7. Empowers students and staff
8. Powers ICT and internet facilities
9. Enables the effective functioning of research/tech. hubs
10. Approximately **1000 generators** currently in use by the universities will no longer be required, thereby reducing the detrimental effects caused to the environment
11. Supports the FGN's climate change obligations under the **Paris Agreement**, with respect to promoting renewable energy, energy efficiency and access to power
12. Surrounding communities will also benefit from reliable power supply, thereby not only improving their quality of life, but also bolstering economic/entrepreneurial activities within those communities

# BACKGROUND

## Phase 1 Projects

S/N	GEO-POLITICAL ZONE	STATE	UNIVERSITIES	PLANT TYPE	CAPACITY (MW)
1	NE	BAUCHI	ABUBAKAR TAFAWA BALEWA UNIVERSITY	SOLAR HYBRID	0.50
2	NW	KANO	BAYERO UNIVERSITY	SOLAR HYBRID	3.00
3	NW	SOKOTO	USMANU DANFODIYO UNIVERSITY	SOLAR HYBRID	2.00
4	NC	BENUE	FEDERAL UNIVERSITY OF AGRICULTURE MAKURDI	SOLAR HYBRID	3.50
5	SE	EBONYI	FEDERAL UNIVERSITY NDUFU-ALIKE IKWO	SOLAR HYBRID	1.00
6	SE	ANAMBRA	NNAMDI AZIKIWE UNIVERSITY	SOLAR HYBRID	2.00
7	SW	LAGOS	UNIVERSITY OF LAGOS	GAS	8.03
8	SW	OSUN	A. OBAFEMI AWOLOWO UNIVERSITY B. OBAFEMI AWOLOWO UNIVERSITY TEACHING HOSPITAL	GAS	8.03
9	SS	DELTA	FEDERAL UNIVERSITY OF PETROLEUM	SOLAR HYBRID	0.50
				<b>TOTAL</b>	<b>28.56</b>



## Achievements to Date

- ✓ Energy audits of 40 main university campuses, 9 teaching hospitals, 8 city campuses, and surrounding communities undertaken
- ✓ EE Programme included in the Power Sector Recovery Programme (PSRP) - Approved by FEC 22<sup>nd</sup> March 2017
- ✓ Successful stakeholder consultation held with Universities and subsequent signing of MoU's with the Phase I Universities
- ✓ NASS approval of ₦9.5 Billion allocation from 2017 National Budget
- ✓ EE Programme received Presidential approval as part of the Rural Electrification Strategy Implementation Plan
- ✓ Concluded development of Environmental Impact Assessment (EIA's) and Land Surveys for all Phase 1 Universities
- ✓ Successfully concluded evaluation of Technical and Financial bids as part of the procurement of works for the Phase I Projects
- ✓ Received approval for Captive Power Generation Permits (CPGP) from

## REA's Responsibilities

1. To provide the technical, financial and operational resources necessary for the implementation of the EE Projects
2. To conduct feasibility studies and support initiation of environmental and other essential studies required
3. To support the local content policy of the Federal Government
4. Apply for and obtain the necessary regulatory approvals, permits, etc. required by the Bureau of Public Procurement, Nigerian Electricity Regulatory Commission and the Federal Ministry of Environment
5. Through the EPC and O & M Contractor, generate and deliver the electric power from the Captive Power Plant to the designated delivery point of the Universities
6. Take responsibility for any costs or charges imposed on or associated with the electric power or its delivery of the electric power up to the Universities' delivery point
7. Develop and operate a training and workshop centre within close proximity to the Captive Power Plant for the purposes of training students of the Universities
8. Procure and install street lighting infrastructure across some major roads within the Universities' main campuses to enhance security and safety

## Universities' Responsibilities

1. Provision of land, with all necessary rights of way and easements, situated within the university's main campus
2. Provision of access infrastructure to proposed sites must be in place
3. Provision of security to safeguard the Engineering, Procurement and Construction (EPC) contractors engaged to implement the Projects
4. To facilitate the acquisition of relevant data and reports towards the conduct of required technical and economic studies for the Projects
5. Cooperate and assist REA in procuring all regulatory and governmental approvals or authorizations required or necessary
6. Cooperate and assist REA in procuring any other necessary documents
7. Take receipt of the electric power at and from the university's delivery point
8. Accept title to and risk of loss of the electric power from the Captive Power Plant once delivered to the university's delivery point

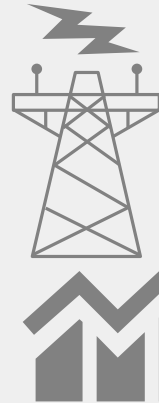
## Universities' Responsibilities

9. Operate and maintain the street lighting infrastructure
10. Ensure that the university's electric power distribution infrastructure from the designated delivery point is fit and healthy to receive and distribute electric power delivered from the Captive Power Plant
11. Observe all necessary safety and other precautions to eliminate downtime during interconnection to the university's delivery point
12. Operate and maintain all distribution network infrastructure from the university's delivery point
13. Provide REA with the necessary support required for the successful implementation of the EE Projects

## Access to Data Requirement-Impact on Universities

A baseline survey shall be conducted to gather data before and after commencement of operation of the IPP

The data will allow creation of Measurement and monitoring tools for the overall impact of the EEP on key beneficiaries and stakeholders.



Allows for comparative analysis and may highlight the impact and changes that occur

during the lifecycle of the power plants.

Data collected can be used for **communications strategies**, promoting **transparency** and engaging **stakeholders**, thereby alleviating anticipated concerns or doubts towards the importance of the intervention.

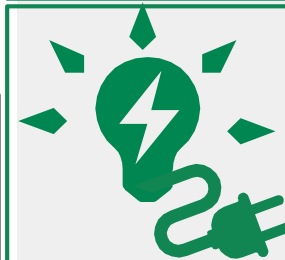


This data allows other sectors and potential investors to get insight into how to make further investments to these institutions and surrounding communities. E.g. access to technology.



The impact list allows for observations into key impact indicators to be made, such as but not limited to;

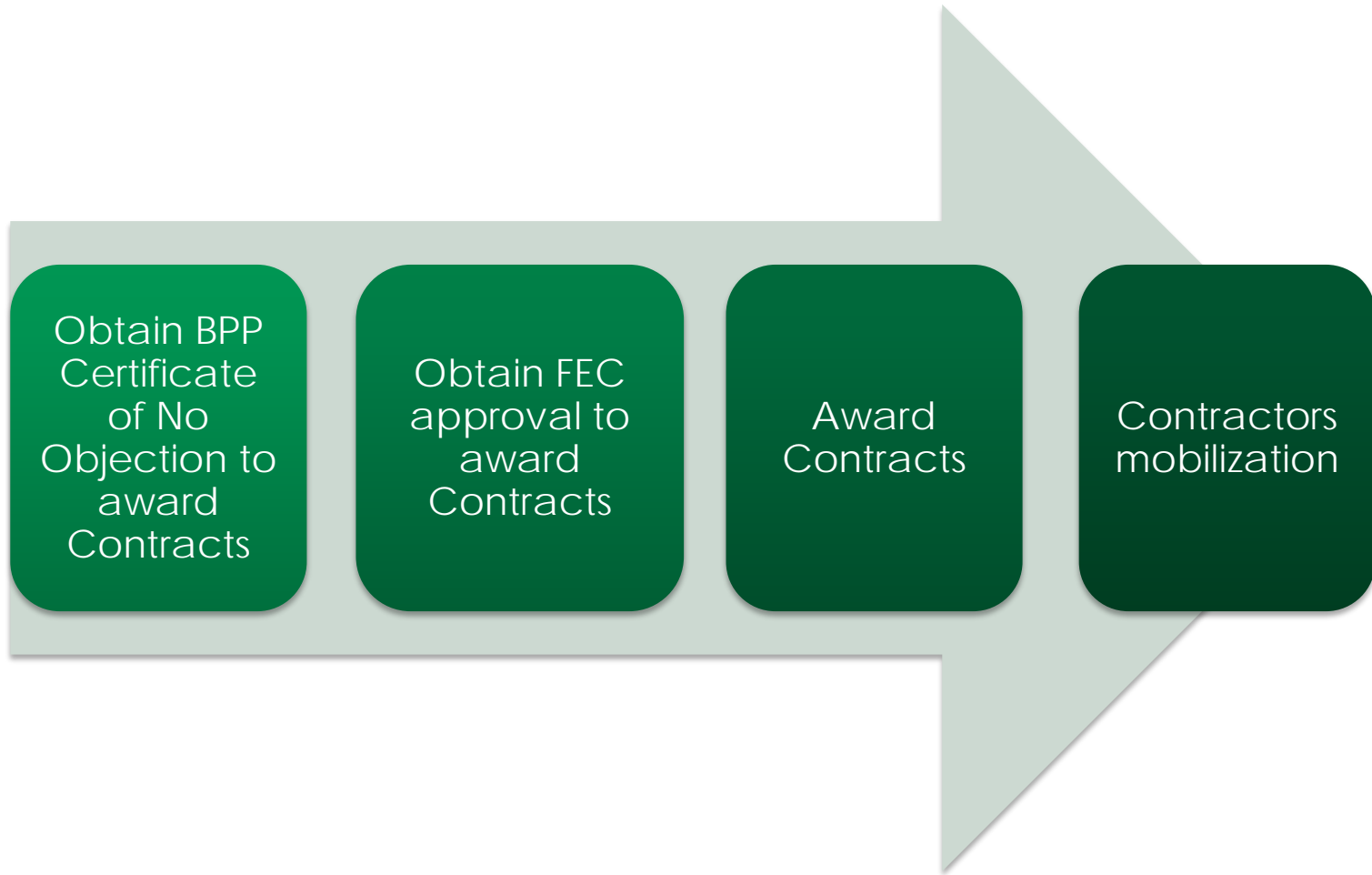
- Security,
- Student and Staff retention,
- Teaching and Study hours
- Environmental Impact
- Treatment Success rates,
- Use of Facilities,
- Growth in Technology,
- Economics,
- Sanitation etc.



It is important to collect data at this stage of the project to gain

a general indication of the infrastructural conditions that rely on electrical power in the Universities and Teaching hospitals

# NEXT STEPS





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# KEY QUESTIONS

- 1. What can we do to promote a successful bidding process?**
- 2. What can we do to ensure sustainable projects, e.g ongoing O& M?**
- 3. How can we apply lessons learned from other solar IPP projects?**
- 4. How to sustainably allocate power and energy within the universities?**



# Breakout Session

- To answer these questions, we'll breakout into groups—each table will focus on questions 1–2 first, and then switch to 3–4
- A facilitator is at each table to help guide the discussion
- We'll signal midway that it's time to switch questions
- Facilitators will report out the takeaways from each group

1. What can we do to promote a successful bidding process?
1. What can we do to ensure sustainable projects? (e.g., ongoing O& M)

3. How can we apply lessons learned from other solar IPP projects?

4. How to sustainably allocate power and energy within the universities?

# Report Out

# Closing Thoughts