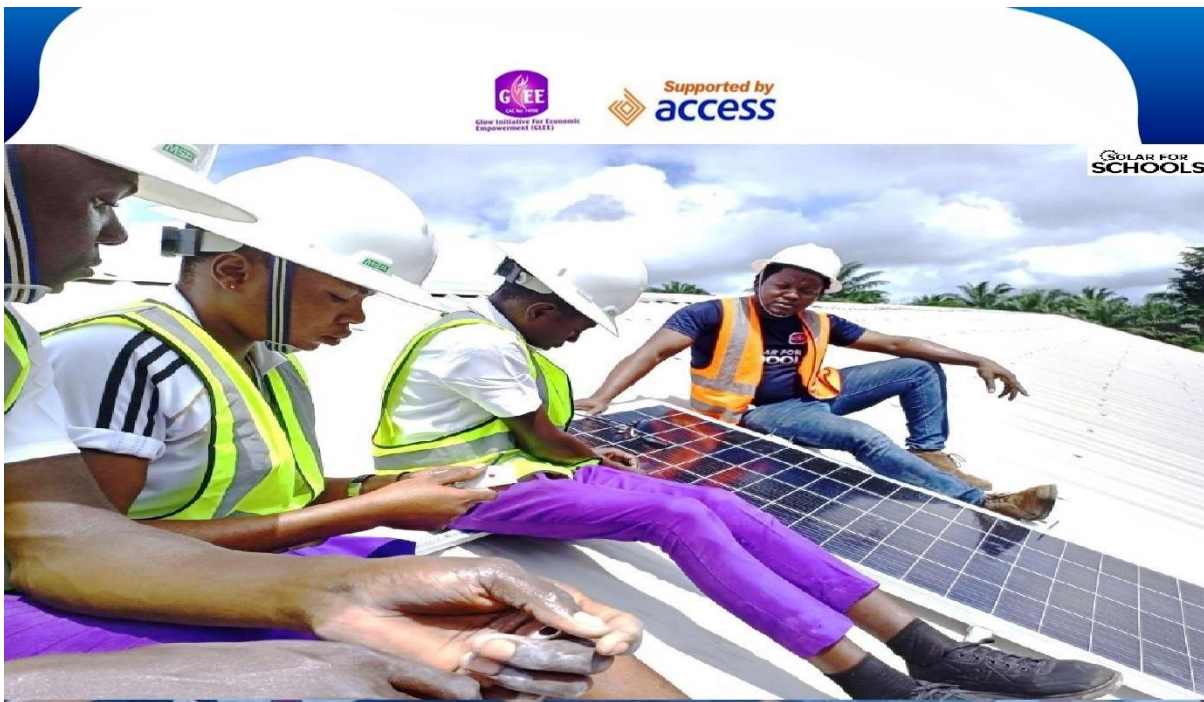




SOLAR FOR SCHOOLS



SOLAR INSTALLATION FOR SECONDARY SCHOOLS

# SOLAR FOR SCHOOLS COMMUNITY PROJECT REPORT

UMUAWULU COMMUNITY, AWKA SOUTH LGA, ANAMBRA STATE

# Project Background

Inadequate infrastructure in rural areas and constant power outages in grid-connected areas prevent students from learning in optimal conditions. Further, students lack access to modern information technology which is crucial for educational and economic empowerment. Solar energy has the potential to power the education system in rural areas by providing adequate electricity as well as access to education. It helps in improving the living standards of rural households through solar energy-based interventions and learning facilities in the underserved community.

Access to solar electricity for a rural school will enable them to meet their electricity needs such as **lighting, powering office equipment, ventilation etc.**

## Our Solution

It is in the light of this that Glow Initiative for Economic Empowerment announces the **Solar for Schools Community Project** under their **Solar UP Nigeria (SUN)** Program is installing a PV system to power the computer room of Community Secondary School (a.k.a Union Secondary School), Umuawulu, Awka South Local Government Area of Anambra State and promote awareness amongst students and school teachers on solar energy and sustainability ultimately supporting rural electrification and encouraging student interest in STEM.

# Project Objectives

1. To provide electricity that will power computer centers of public schools by designing and installing Solar PV System including solar panels, batteries, inverters and a charge controlling system to enable night time study and encourage more student participation in STEM subjects.
2. Educating 60 students and 5 teachers on the Basics of Solar Electricity; how solar panels generates electricity.

# Project Activities

- 1) Design and installation of Solar PV System including solar panels, batteries, inverters and a charge controlling system to power Community Secondary School (a.k.a Union Secondary School), Umuawulu, Awka South Local Government Area of Anambra State to provide electricity to power the school's computer center, enable night time study and encourage more student participation in STEM subjects.
- 2) Educating 60 students and 5 teachers on the Basics of Solar Electricity; how solar panels generates electricity.

# Details of Project Activities

## 1. INSTALLATION OF SOLAR PV @ COMMUNITY SECONDARY SCHOOL UMUAWULU, AWKA SOUTH LGA.

### a. Description of Location

Umuawulu community is rural community located in Awka South Local Government Area of Anambra State, Nigeria. Umuawulu has boundaries with five towns, on the North is Isiagu, on the East is Amaetiti, on the West is Nibo and on the south, it is bounded by Awgbu and Mbaukwu. Umuawulu is made up of three villages: Enugwu, Umuenu and Agbana.

### b. Stakeholders Interface between Project team and the leadership of Umuawulu Community.

The project team on arrival at Umuawulu community held a meeting with educational stakeholders in the community. The meeting afforded the project team the opportunity to better understand the challenges posed by the non-availability of the stable electric supply in the school and the resultant impact it has on learning processes and outcomes in the school.

The educational stakeholders of the community and the Management of the school were delighted that their community school was selected to benefit from the “Solar for School” project. According to them, the project will be a great relief for them as they problem of electric power supply for the school will be permanently fixed. The leadership of the community also pledged their commitment to ensure that the installed solar PV systems will be adequately safe guarded.



Project lead interfacing with some educational stakeholders in the community



### c. Installation of Solar PV system at Community Secondary School Umuawulu (A.K.A Union Secondary School)

A Solar PV system was installed at the Community secondary school Umuawulu. Before the installation, the school did not have access to electricity. As a result, ICT resources in the school were packed up. Students could not have access to their laptops and desktops. Also, there was no means of lighting up the library for night time studies.

A solar PV system was installed free of charge in the school. The solar pv system comprised of three **200watt solar panel** and a **hybrid inverter** with an inbuilt charge controller of **20amps** that enable solar to regulate its charging. The system also came with batteries. The solar system has the capacity to power 15 laptop computers and provide power for 20 light points.

Students of the school were part of the installation process. They were afforded the opportunity to learn solar system installation from scratch to finish.



Students participating in the solar installation process



Students installing solar panels at a roof top

**d. Commissioning and Hand over of the Solar PV system to the community.**

The solar PV system installed at the Community Secondary School Umuawulu was formally commissioned and handed over to the community on Friday 16<sup>th</sup> December 2022. The commissioning was witnessed by the traditional ruler of the community, H.R.H. Eze G.C. Igboamazu, members of his cabinet, representatives of the community's town union, members of the Parents Teachers Association of the school, teachers and well-wishers.

Speaking at the event, the traditional ruler of the community said that the absence of a source of electric supply has been a major challenge for the school. He thanked Access Bank and Glow Initiative for Economic Empowerment for the free installation of a Solar PV system in his

community. He pledged the commitment of his community to ensuring that the installed system is kept safe.

The principal of the school, Mrs Okereke Nwanneka also thanked Access Bank and Glow Initiative for Economic Empowerment for the kind gesture. She expressed optimism that the installed system will greatly benefit the students of her school and enhance learning outcomes.

Other key stakeholders at the commissioning also took turns to speak on the project.

### **Outcomes**

1. Massive turnout of stakeholders at the commissioning ceremony which included the Igwe and council, leadership of Umuawulu town union, leadership of the Parents Teachers Association, representatives from Access Bank, teachers and students.
2. The commissioning provided an opportunity to enlighten guest on Solar and renewable energy.
3. The leadership of the community pledged their commitment to putting in place adequate security arrangements and construction of a burglary proof to protect the solar PV system from theft.





The Igwe cutting the tape @ the commissioning ceremony



The project lead speaking at the commissioning ceremony

## **2. TRAINING OF STUDENTS OF COMMUNITY SECONDARY SCHOOL UMUAWULU, AWKA SOUTH LGA ON BASIC SOLAR TECHNOLOGY.**

This project trained some students of Umuawulu Community School on basic concept of solar technology. The training introduced students to the fundamentals of solar power as it applies to solar panel system installations. They learnt how solar panels, or photovoltaic (PV for short), converts sunlight to electricity. The training also highlighted the basic components needed in a basic photovoltaic (solar panel) system and how to calculate the electrical demand of a building. The training also had a practical aspect where students participated in the installation of a solar PV system.

At the end of the training, certificates were issues to participants at the training.

- **Outcomes**

- i. The students had a good understanding of the basic concept of solar energy.
- ii. Students could identify basic components needed in a basic photovoltaic (solar panel) system and could explain the function of each.
- iii. Students at the training could calculate the electrical demand of a building.
- iv. The students also demonstrated a good competency in the installation of a solar PV system.



Students listen attentively as a facilitator lectures them on solar energy

## Project Challenges and Lessons Learnt

1. The location of Community Secondary School Umuawulu posed a big challenge to the project team. Many roads in the community are not in good shape this made movement in and out of the community stressful.
2. Security was also a huge challenge as the school had no perimeter fencing and this gave intruders unfettered access into the school premises.
3. The Sit-at-home order in the south east part of Nigeria also



affected the implementation of the project as work could not go on during the sit at home days.

## **Conclusion**

Electricity remains a vital tool in powering education. Without electricity it will be impossible to operate educational resources like computers, desktops, projectors, and printers; it will also be difficult for students to study at night. The implementation of the Solar 4 Schools Community project in Umuawulu community was a step in the right direction towards helping students of Community Secondary School Umuawulu gets unhindered access to online educational resources through the use of their school computers. The students will also find the use of the school library more convenient with the availability of solar power to operate the fans at the library. One other highpoint of this project is that it guarantees a 24hour power supply for the benefitting school.

Students who undertook the solar technology training can also develop their skills around solar technology and become economically self-reliant.

Solar 4 Schools Community project is laudable and needs to be replicated across other energy deprived public schools in Nigeria.



# Access Bank Support

1. Access Bank support covered expert designs for our IECs and publicity materials.
2. The support enabled the purchase of all the components used for the installation of the Solar PV System at Umuawulu Community.
3. Access Bank support covered the cost of training of 60 students on basic solar technology.
4. Access bank support covered transportation and accommodation cost of the project team

## **About Glow Initiative for Economic Empowerment and Climate Smart Nigeria**

Glow Initiative for Economic Empowerment is a non-governmental organization set up to harness the economic potentials of communities by tackling problems like unemployment, poor electricity access and climate change through education and investments in renewable energy. We are focused on reducing unemployment and creating a sustainable society by supporting women and young people to become renewable energy entrepreneurs by helping them acquire solar technology, business and financial management skills to create and deploy solar solutions for individuals and companies in rural and urban areas. Our goal is to birth 10,000 renewable energy entrepreneurs in the next 5 years. Climate Smart Nigeria is the arm Of Glow Initiative which is set up to combat environmental problems like Climate change to improve the nation's power sector by spreading the awareness of Climate Change to curb climate illiteracy and promoting

the intervention of renewable energy. Through CSN, we use the tool of education to curb climate illiteracy. Our goal is to boost the economic development of Nigeria and attain a Climate Smart nation come 2026 through pioneering investments in renewable energy, Climate education and agriculture.

# PICTORIAL EXERCPTS



Students power their computer systems after the solar installation



The project team poses with the Igwe of Umuawulu community and his team

# PICTORIAL EXERCPTS



Staff of the school taking a tour of the computer room after the commissioning



The project team poses for photographs



# PICTORIAL EXERCPTS



A cross-section of guests at the commissioning



The school signpost

# IEC MATERIALS



Supported by  
**access**

GLOW INITIATIVE FOR  
ECONOMIC EMPOWERMENT  
PRESENTS

## Solar Up Nigeria (SUN)



**UMUAWULU COMMUNITY, AWKA SOUTH LGA, ANAMBRA STATE.**

- ◆ Solar for School Community Project (Free Solar System Installation at Community Secondary School Umuawulu).
- ◆ Solar Panel Skills Installation Training Program For Select Youths of Umuawulu Community.



# IEC MATERIALS



**GLOW INITIATIVE FOR ECONOMIC EMPORWERMENT**

with support from

**ACCESS BANK NIGERIA**



**SCHOOLS**



**SOLAR INSTALLATION FOR SECONDARY SCHOOLS**

# **SOLAR** **FOR SCHOOLS** **COMMUNITY** **PROJECT**

**UMUAWULU COMMUNITY SECONDARY SCHOOL**  
**AWKA SOUTH LGA, ANAMBRA STATE**

# IEC MATERIALS

**GLOW INITIATIVE FOR ECONOMIC EMPOWERMENT**  
P R E S E N T S

**Solar Installation  
For Secondary Schools**



**SOLAR FOR  
SCHOOL  
COMMUNITY  
PROJECT**

**COMMUNITY SECONDARY SCHOOL UMUAWULU  
AWKA SOUTH LGA, ANAMBRA STATE.**



# IEC MATERIALS

**SOLAR**  
POWERING  
**COMPUTER**  
EDUCATION

Supported by  
**access**

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FOR S.S III STUDENTS  
TO LEARN  
COMPUTERS**

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COMPUTER**

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**COMPUTER STUDIES**

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ICT**

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# SOLAR POWERING ICT

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# THANK YOU ACCESS BANK FOR SOLAR IN MY SCHOOL





# POWERING EDUCATION with SOLAR






POWERING EDUCATION WITH SOLAR

WITH  
**SOLAR**  
 IN MY SCHOOL

I CAN STUDY AT NIGHT FOR MY

# WAEC EXAMINATION



We used to sell  
**PALM FRUIT**  
 at our school to  
 afford to rent  
**GENERATOR**  
 for  
**Computer Studies**





# RAISING SMART ICT LEADERS



