

SHE CAN...



**SOLAR CHAMPIONS INITIATIVE FOR GIRLS
PROJECT AT
COMMUNITY SECONDARY SCHOOL
NKPOLU, RIVERS STATE.**

Project Report

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 most importantly help reduce the amount of carbon released into the atmosphere.

Researches have it that the number of women or young girls in Science, technology, engineering and mathematics (**STEM EDUCATION**) is less than 30% globally, not to talk of Africa, Nigeria to be precise. They tend to shy away from learning these engineering courses sometimes due to societal views, lack of support from families and friends and mostly lack of easy access to these courses and trainings.

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 “SHE CAN (Solar champion Initiative for Girls) geared at training young secondary school girls on science skills on the business opportunities in the solar energy value change; installing a 1.7Kva PV system to power the computer room of **community secondary school Nkpolu, Port Harcourt, Rivers state** and promote awareness amongst students and school teachers on solar energy and sustainability ultimately supporting sustainable/renewable 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 50 female students and 5 teachers on the Basics of Solar Electricity; how solar panels generates electricity.
3. To combat and reduce the amount of carbon released to the atmosphere due to the use of petrol generator sets. The 3.5 KVA solar system will help to offset 5.11kg of carbon a year which equals to 5.11 tons and 153.300kg of carbon dioxide which equals 153.3 tons in 30years being the life span of solar panel.

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 Nkpolu, portharcourt, Rivers state to provide electricity to power the school's computer center, enabling uninterrupted time for students to learn computers and have access to computer aided learning and encourage more student participation in STEM subjects.
- 2) Educating 50 female 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 Nkpolu, Port Harcourt, Rivers state.

a) Description of Project Location

Nkpolu community is a rural urban settlement located in ward 10, Mile 3 Diobu PH, Port Harcourt Local Government Area, Rivers State Nigeria.

b) Stakeholders Interface between Project team and the leadership of Community secondary school Nkpolu.

The project team on arrival at the school in Nkpolu community held a meeting with the management of Community Secondary School Nkpolu. The meeting afforded the project team the opportunity to better understand the challenges posed by the epileptic power supply in the school and the resultant impact it had on learning processes and outcomes in the school.

The Management of the school expressed delight 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 the school’s energy challenges. The leadership of the community also pledged their commitment to ensure that the installed solar PV systems will be adequately safe guarded.

**c) Installation of Solar PV system at community secondary school Nkpolu, port
Harcourt, Rivers state**

A Solar PV system was installed at community secondary school. Prior to the installation, the school didn’t have access to electricity. Powering the computers at the school was a huge challenge for the School’s management because of the huge cost associated with the hire of generators and the purchase of fuel and diesel.

A 2KVA Solar PV system was installed at the school at no cost. The installed solar PV system has the capacity to power 5 – 6 desktop computers, 20 light points and about 2 fans. Students of the school were part of the installation process. This afforded them the opportunity to learn solar system installation from scratch to finish.



Students participating in the solar installation process

d) Project Commissioning

The solar PV system installed at **community secondary school Nkpolu**, was formally commissioned and handed over to the community on Thursday 29th of September, 2022. The commissioning was witnessed by a representative from Access bank, members of the

community, the principal of the school, members of the Parents Teachers Association of the school, teachers and well-wishers.

The guests at the commissioning were taken round the installed facility and they were excited about the development.

Outcomes

1. Key stakeholders graced the commissioning ceremony. This included Access Bank representatives, prominent members of the community and leadership of the Parents Teachers Association.
2. The commissioning provided a platform to draw the attention of the stakeholders present to other challenges faced by the school.
3. Guests were educated on the need for renewable energy systems in environmental protection.
4. The leadership of the community pledged their commitment to putting in place adequate security arrangements and constructing a burglary proof to protect the solar PV system from theft.



Access bank's representative cutting the tape @ the commissioning ceremony

2. TRAINING OF STUDENTS ST. COMMUNITY SECONDARY SCHOOL NKPOLU, PORTHARCOURT, RIVERS STATE ON BASIC SOLAR TECHNOLOGY.

This project trained 50 female students of **Community Secondary School Nkpolu, Port Harcourt, Rivers state** on basic concept of solar technology. The training introduced the 50 students to the fundamentals of solar power as it applies to solar panel system installations. They learnt how solar panels, or photovoltaics (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 had a practical aspect where students participated in the installation of a solar PV system.

At the end of the training, certificates were issued to participants.

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.

Project Challenges and Lessons Learnt

1. The location of **Community Secondary School Nkpolu, portharcourt, Rivers state** posed a big challenge to the project team as it was difficult to access. The incessant rainfalls during the training period also hampered activities especially during practical sessions of solar panel installation at roof top.
2. The computer systems in the school are old and not energy efficient.
3. Since the school closing time was 2pm the project team was forced to end training activities by 2pm. This did not afford the team enough time for training

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 for Schools Community project in Nkpolu community was a step in the right direction towards helping students of community secondary school Nkpolu get unhindered access to online educational resources through the use of their school computers. One other highpoint of this project is that it guarantees a 24hour power supply for the school.

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

Solar for 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 Nkpolu Community.
3. Access bank's support covered the travel, incidentals, accommodation and stipend for project team
4. Access bank support covered the cost of training 50 female students of Community school Nkpolu on Solar technology.

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 EXCERPTS



Jubilant students pose photographs as the Solar PV system power their computer sets



Students at the computer room fully powered by the installed solar PV system



The Project Team, Access bank representative and the school management team pose for photograph



Students installing a change over system



Students pose with Project team and School Management displaying their certificates



Students pose with placards and solar panels



Project Team members pose for photograph on arrival to the school.



Project Team arrive at the school



Project Coordinator Addressing Students on Opportunities for Women in Stem Education



Project engineer during a training session

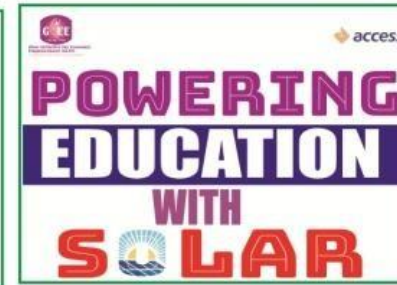
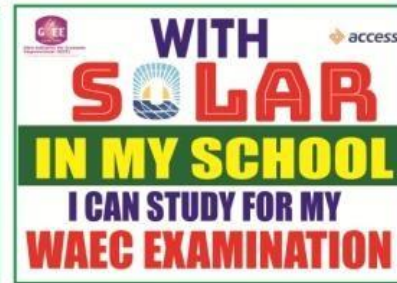
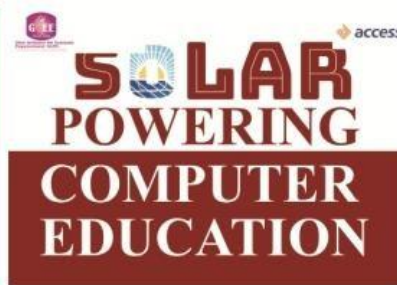
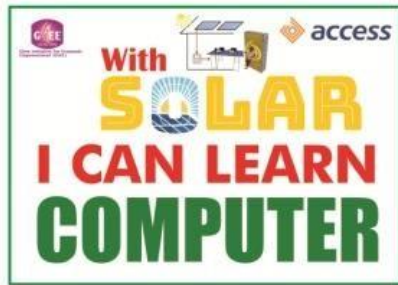


A beneficiary of the solar technology training explaining the solar PV system installation process



The project Team leader addressing the students

IEC MATERIALS



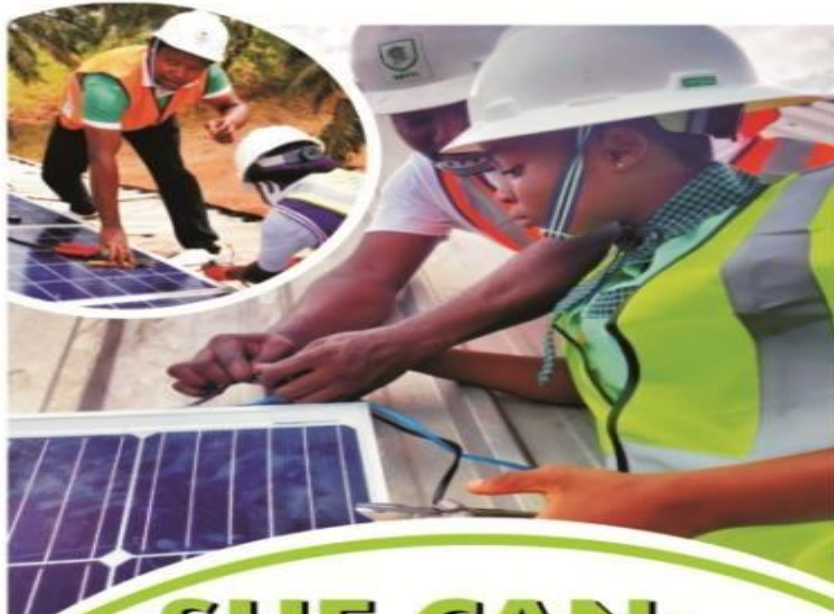
IEC MATERIALS



GLOW INITIATIVE FOR ECONOMIC EMPOWERMENT

in conjunction with

Access Bank



SHE CAN: Solar Champions Girls Initiative



EMPOWERING 50 GIRLS IN ICT SKILLS

- **Hands on SOLAR PANEL INSTALLATION skill Acquisition**
- **Energy Conservation and Management**
- **Powering the community school library with Electricity**

**IN Community secondary school Nkpolu,
Rivers State**

IEC MATERIALS

GLOW INITIATIVE FOR ECONOMIC EMPOWERMENT
in conjunction with
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SHE CAN:
Solar Champions Girls Initiative

STEM Training for 50 girls on:
-SOLAR PANEL DESIGN AND INSTALLATION
&
- Energy Conservation and Management

Location: Community Secondary School Nkpolu,
Perthacourt Rivers state

#FightSootWithSolar

GLOW INITIATIVE FOR ECONOMIC EMPOWERMENT
in conjunction with
Access Bank

Presents



ELECTRICITY PROVISION
for
Community Secondary
School Library

- where our Female
Solar Champions school.

SHE CAN:
Solar Champions
Girls Initiative

#FightSootWithSolar