

# ICEESR UNIUYO

INDUSTRY ENGAGEMENT FORUM

**Topic: Solar Energy in a Covid-19 Economy**

**October 15, 2020**

**2 pm (Nigerian Time)**



# Today's Speakers



Owoabasi Onuk  
CEO, Cleanergy



Prof. Idara Akpabio  
Dean, Faculty of Science,  
University of Uyo, Uyo



Convener:  
Dr. Edu Inam  
Director, ICEESR UNIUYO



# Moderator



**Dr Nnanake-Abasi O. Offiong**

Research Fellow

International Centre for Energy and Environmental Sustainability Research (ICEESR)

University of Uyo, Uyo, Nigeria



## Exploring Partnership Opportunities

# ICEESR

## University of Uyo



## Edu Inam, PhD

DIRECTOR, INTERNATIONAL CENTRE FOR ENERGY AND ENVIRONMENTAL  
SUSTAINABILITY RESEARCH (ICEESR), UNIVERSITY OF UYO, UYO.

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# Introduction



Idea Conceived  
2010

Approval of  
Proposal  
UNIUYO 2012

Groundbreaking  
and Foundation  
Laying 2015

**Linkages with  
Industry  
partners**



# ICEESR Mission and Vision

## **Vision**

To be one of the top 10 innovation centres in the world

## **Mission**

To be a centre of excellence in research, technology and innovation; delivering scalable and sustainable solutions to challenges in energy and environment in African societies



# ICEESR Core Mandate

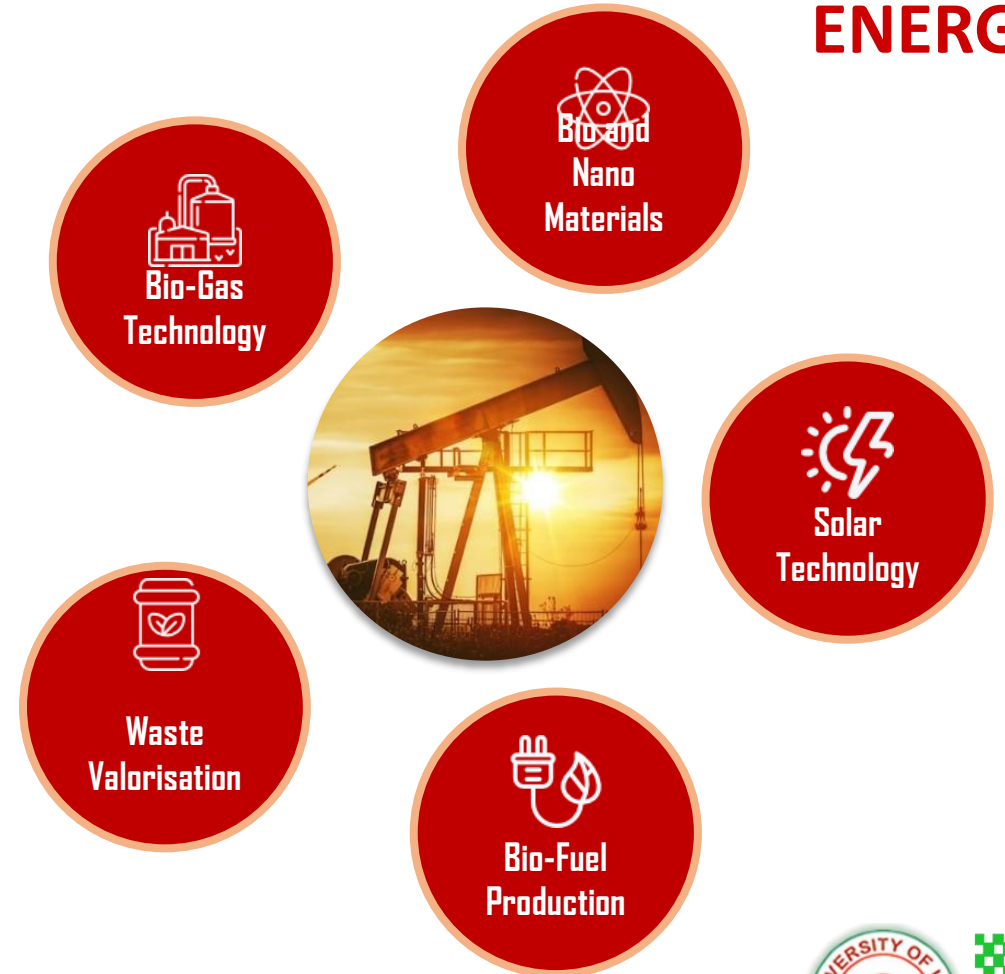
- (i) Incubation of ideas and innovations for the market**
- (ii) Transformation of academic researches into technologies for commercialisation**
- (iii) Solution offering for the markets and SMEs**
- (iv) human capacity development**

# What We Do

## ENVIRONMENT



## ENERGY





# Partners



Lancaster  
University



<https://www.iceesr.org.ng/about/partners/>



For more information about ICEESR, please visit our website at  
[www.iceesr.org.ng](http://www.iceesr.org.ng)

E-mail: [iceesr@uniuyo.edu.ng](mailto:iceesr@uniuyo.edu.ng); or [contact@iceesr.org.ng](mailto:contact@iceesr.org.ng)

social media channels:

<https://web.facebook.com/iceesruniuyo>

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<https://www.youtube.com/ICEESRUNIUYO>

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Fill out our industry survey form at

<https://www.iceesr.org.ng/business/businesses-and-industries/>

Questions/enquiries: [iceesr@uniuyo.edu.ng](mailto:iceesr@uniuyo.edu.ng)

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# ICEESR UNIVERSITY-INDUSTRY FORUM

## SOLAR ENERGY IN COVID-19 ECONOMY

Professor Idara O. Akpabio

Dean, Faculty of Science, University of Uyo, Uyo, NIGERIA

# Speaker Profile: Professor Idara O. Akpabio

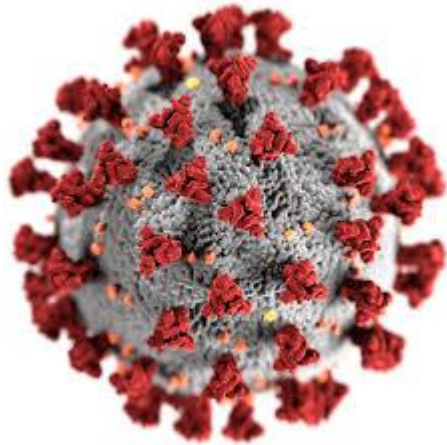


Prof. Idara Akpabio  
Dean, Faculty of Science,  
University of Uyo, Uyo

Professor Idara O. Akpabio is the Dean, Faculty of Science, University of Uyo, Uyo, Nigeria. He has been a Professor for over ten years. He holds a PhD degree in Applied Geophysics from University of Science and Technology, Port Harcourt. He has professional experience that has taken him through the Geological Laboratory and Exploration Department of Shell Petroleum Development Company of Nigeria (SPDC); Stanford University, California; and Southern Polytechnic State University, Atlanta, Georgia. Professor Akpabio is the Coordinator of the Advanced Space Technology Applications Laboratory (ASTAL), Uyo. Professor Akpabio is a member of several professional organisations including: Nigerian Institute of Physics; Nigerian Mining and Geosciences Society; and Nigerian Association of Petroleum Explorationists. He has authored and published over 100 articles in reputable national and international journals.



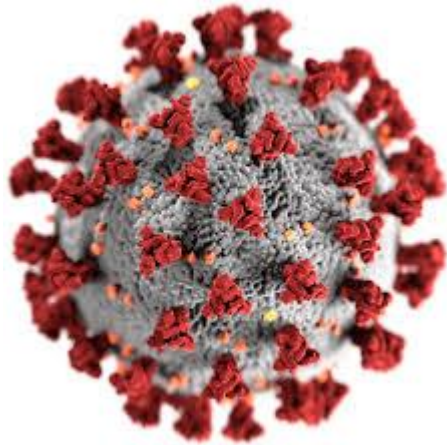
# IMPACT OF COVID-19 ON ECONOMY:



- COVID-19 has impacted the global economy with many countries' economy getting into recession.
- As the lockdown measures were introduced, global energy demand dropped leading to a collapse of the energy demand and energy prices.
- Businesses especially SME's were closed leading to Job losses
- Devaluation of currency
- Inability to make procurement for foreign spare parts
- In Nigeria, about 55% of the population lack access to grid-connected electricity



# OPPORTUNITY IN THE SOLAR ENERGY INDUSTRY



- Supporting medical teams in remote areas with solar energy
- Off-gride projects being more preferred by investors example Fed Govt. to provide solar energy to 5m Nigerians within months
- Solar energy systems for food security
- Powering home electricity with solar energy increasing
- Local manufacturing of solar systems inevitable as supply chain from China and Europe is disrupted due to COVID-19



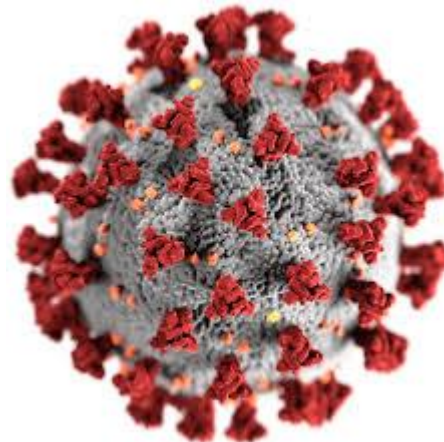
# RESEARCH AND INNOVATION

## Innovations

- Light Sensitive Nanoparticles
- Bifacial Solar Modules
- Thin Film Solar
- Hairy Solar Panels
- Solar Windows
- Floating Solar Panels

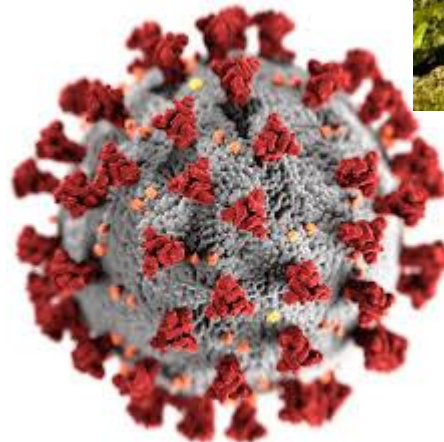
## Major Areas of Research

- Solar Energy Storage
- Solar Efficiency
- Solar Design Technology
- Photovoltaics
- Concentrated Solar Power



# UNIUYO Researcher Output and Need for Partnership

- ❑ Utilizing solar power for food security
- ❑ Expensive grid projects fading away
- ❑ The unprecedented importance of home electricity
- ❑ Light Sensitive Nanoparticles
- ❑ Bifacial Solar Modules
- ❑ Thin Film Solar
- ❑ Hairy Solar Panels
- ❑ Floating Solar Panels



**Thank You**



## The Guest Speaker: Owoabasi Onuk



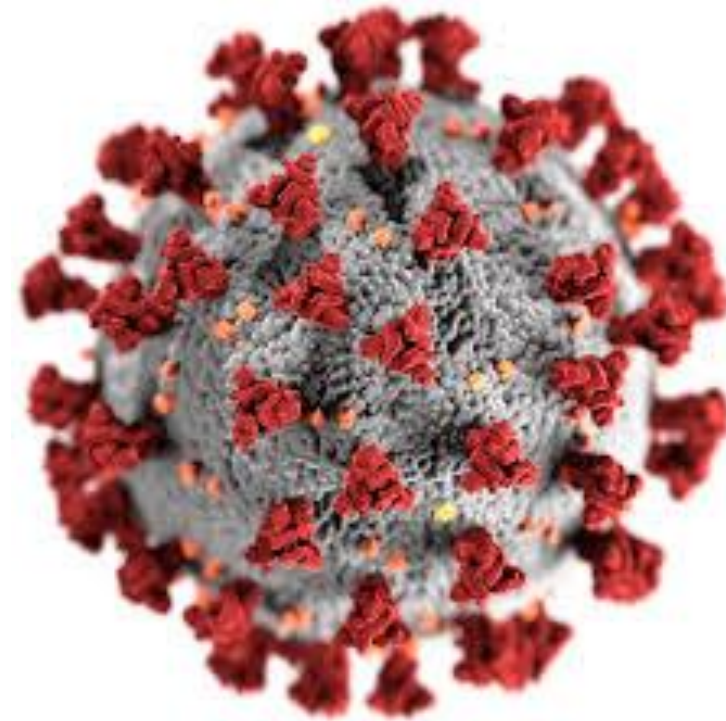
Owoabasi Onuk is an Energy Consultant with more than 12 years of professional expertise in Solar Power Systems Engineering.

He is the CEO of Cleanergy, a leading Solar Energy Company in Nigeria, that has successfully installed solar power systems in 15 different states in Nigeria, providing 24/7 Electricity to Homes, Businesses, Commercial Buildings, Banks, Data Centers, etc.





# Poll Questions, Discussions and Q&A







# ICEESR UNIUYO INDUSTRY ENGAGEMENT FORUM

## **Smart Modular Integrated Solar and Wind Energy System**

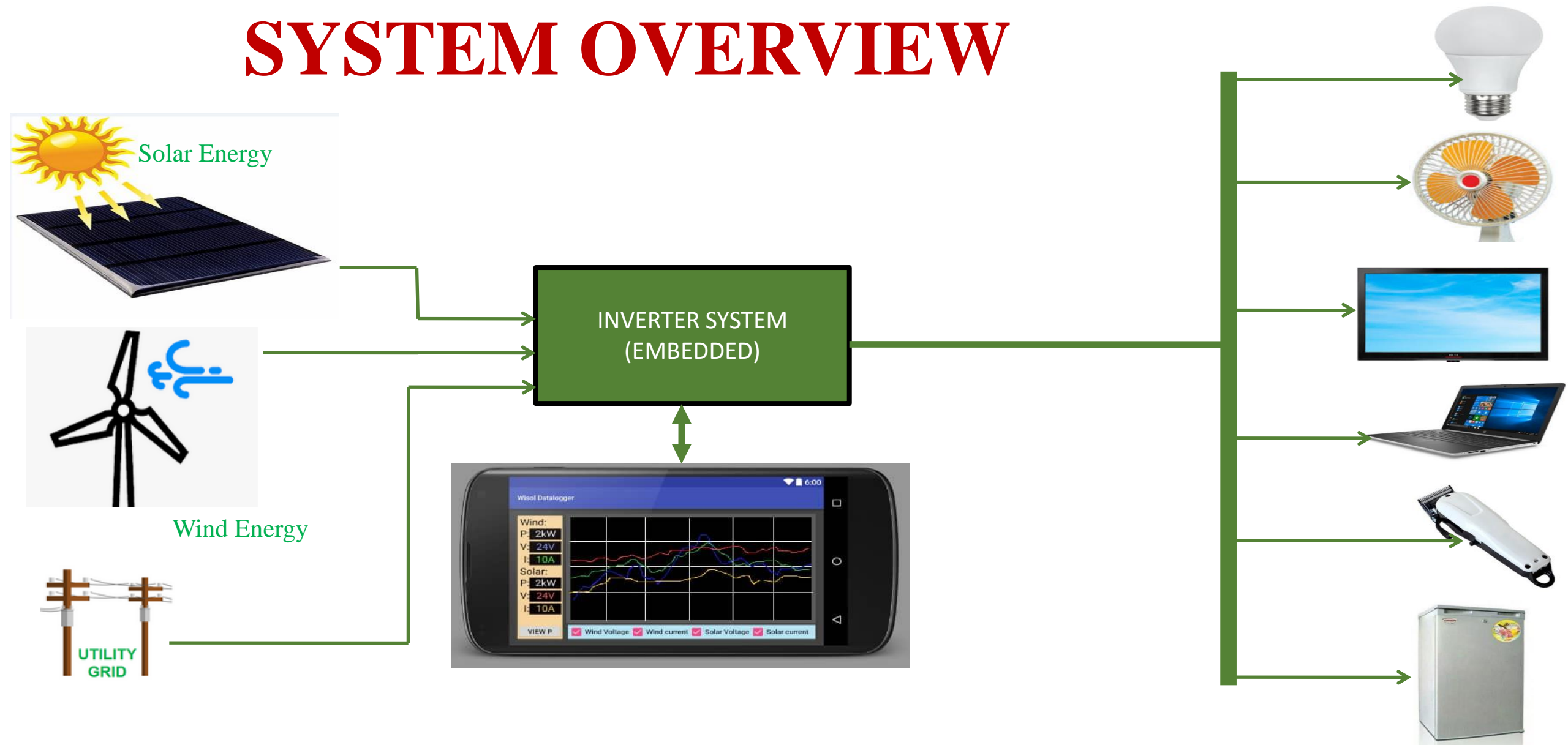
**Emmanuel Okon Usah, Ozuomba Simeon, E. Edet Ekott**

**Department of Physics, University of Uyo, Uyo, NIGERIA**

# OBJECTIVE OF THE STUDY

The **main objective** of this study is to design, implement and evaluate a smart modular integrated solar and wind energy system.

# SYSTEM OVERVIEW

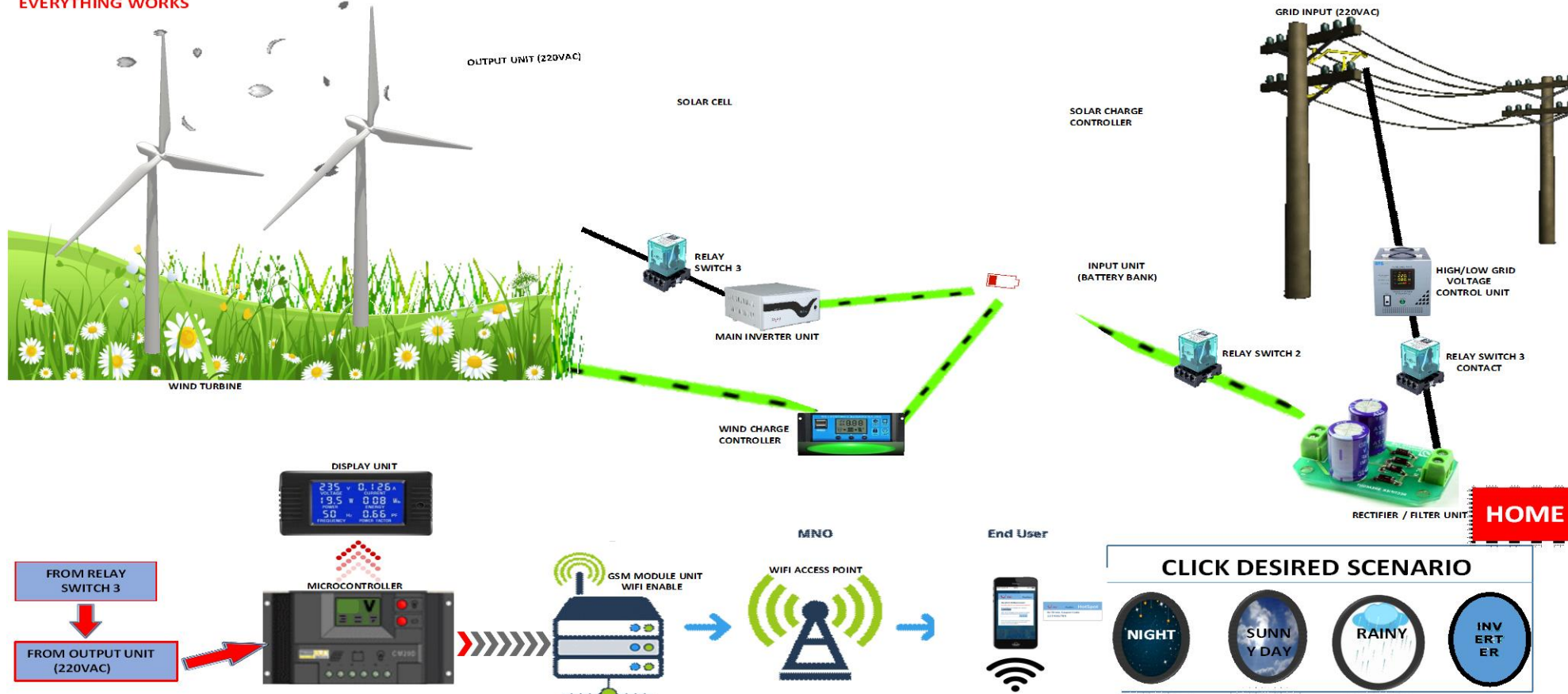


# **SMART MODULAR INTEGRATED SOLAR AND WIND ENERGY SYSTEM (WiSol SYSTEM)**



# WISOL PROJECT ANIMATION

SCENARIO: 0 - PERFECT WORLD WHERE EVERYTHING WORKS



**THANK YOU**