

30 August 2023

## Innovations Session N°14

Climate-resilient practices and  
innovations by agrifood SMEs



INNOVATIONS<sup>📶</sup>  
SERIES

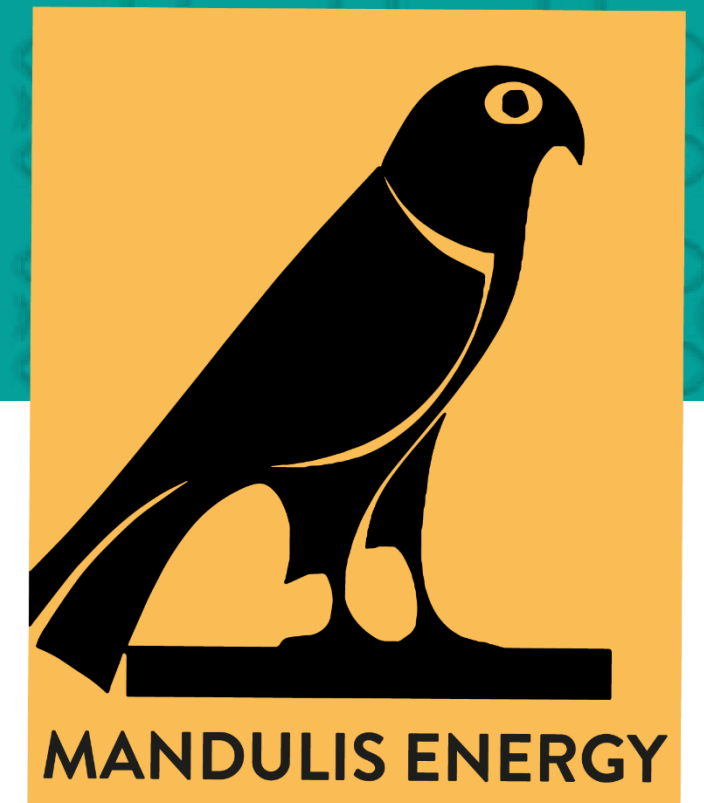


Hybrid Renewables delivering  
Holistic Solutions to the **Energy**  
access **“Trilemma”** of **Reliability,**  
**Sustainability, and Affordability.**

**Climate-resilient practices  
and innovations**

**Peter BenHur Nyeko**

**August 2023**



**MANDULIS ENERGY**

*Powering A Future of Hope*

A group of people, including children and adults, are standing in a field of tall grass. The image is overlaid with a semi-transparent yellow filter. The text is overlaid on the image.

**The**

**FUTURE**

**is**

**HOPE**

**Pope Francis**



**Over Half** the World's close to **1 Billion** without electricity, live in Sub-Saharan **Africa**

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**1 person in Europe consumes more electricity than 50 people in Least Developed Countries**

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**750 Million+**  
In Africa, Asia, Latin America & the Caribbean **without Electricity**

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A photograph of two children sitting on the floor in a dimly lit room, reading books. The child on the left is wearing a colorful, patterned garment. The child on the right is wearing a red garment. A single candle provides the light source, casting a warm glow on the scene. The background is dark and textured, possibly a wall or a large piece of fabric.

**250**  
**Million+**  
**Children**

**without electricity**



60%+

Of Developing World  
**Rural Farmers**



**Crop Harvests  
lost without  
Processing**



2

Billion+

Cook with  
Wood Fuels



3 hours

Every day





# Smoke

Suffering, disease & death



2 packs



Smoke kills



4% deaths  
indoor  
pollution



# Energy Access | A Multi Billion Dollar Energy Opportunity in Least Developed Countries

Grid **connectivity** exceeds **50%** for **wealthiest 20%** of households

For **poorest 50%** of **population**, **connectivity** below **20%**.



**20%**  
**of global emissions**

**Deforestation, destruction**

**...Agriculture and agribusiness in Africa will triple to a Trillion Dollar market by 2030.**

**...need to increase access to energy, technology... to allow for better and increased farming.**

*“a strong agribusiness sector is vital for Africa’s economic future.”*





To scale-up uptake  
of sustainable  
energy,...

**important to align with local  
settings.**

...through a people-centered  
“bottom-up” approach,

## Farmers need:

- High quality & affordable energy,
- Increase in amount of energy used
- Access to wide range of appliances

— a holistic approach to  
smallholders' energy needs.



**Gasification**

# **Agricultural Residues**

**into cooking fuel and electricity**



**Mini-Grids in off grid rural communities**

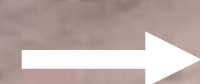




# Powering Agriculture



Crops



Processing  
Services



Waste



Energy  
Production



Electricity



Flour



Cooking Fuel  
& Bio-Fertilizer





**Synergies**



**Better Yields**





**Improved Livelihoods** 1M+  
farmer families



**Target Impact** 1M+ Ton  
CO2 removed annually



**Growth** across the  
Globe

# IMPACT Pipeline





Better Incomes, Health, Education, Jobs



**Affordable. Reliable. Sustainable.**

 [@mandulisenergy](https://twitter.com/mandulisenergy)



# Thank you

