

24 APRIL 2025



Session n°17:

## Innovation and technology adoption by entrepreneurs in the Caribbean



*Caribbean Agrifood Business Series* ...



Funded by  
the European Union

## ECOBATT: CLEAN ENERGY FOR RESILIENT AGRIBUSINESS

- Presented by Mahalia Joseph
- Founder – 3BAELS Energy ALlternative Services Ltd
- IICA Caribbean Agrifood Business Series | April 24, 2025



# THE PROBLEM – WHY CHANGE IS URGENT

---



- Energy costs = 30–40% of agri-processing expenses



- Power outages disrupt cold storage, drying, and processing



- Lithium-ion solutions are too costly, especially in rural areas



Why it matters: Energy insecurity = post-harvest losses, reduced income, and food waste



- Solar-powered thermal battery using superheated sand



- Stores up to 100 MWh – lasts 15–25 years



- Off-grid or hybrid system



Applications: Cold storage, crop drying, food processing, water pumping

## THE SOLUTION – WHAT IS ECOBATT?



# COMPETITIVE ADVANTAGE

- Cost Comparison (CAPEX per kWh):
  - - ECOBATT: US\$35–\$55
  - - Lithium-Ion: US\$140–\$250
- Other Benefits:
  - - 70% lower lifecycle cost
  - - Built from local sand and steel
  - - Eco-safe, minimal maintenance, scalable for rural clusters



## IMPACT – ENVIRONMENTAL & SOCIAL

- - Saves >120,000 tons of CO<sub>2</sub> over 20 years
- - No toxic chemicals, 100% recyclable
- SDG Alignment:
  - - SDG 2: Zero Hunger
  - - SDG 7: Affordable & Clean Energy
  - - SDG 9: Innovation & Infrastructure
  - - SDG 13: Climate Action



# SCALING UP – THE CALL TO ACTION

- Where: Launching in Trinidad & Tobago, scaling to the Caribbean, Latin America, Africa
- When: Pilots in 2025–2026, regional rollout by 2027
- Call to Action:
  - - Partner for pilot projects
  - - Co-develop financing for farmers & SMEs
  - - Support policy for decentralized, renewable energy





# THANK YOU

**Presenter : Mahalia Joseph**

**Contact: 1868-620-7595**

**Email:  
3bael.ecobatt.tt@gmail.co  
m**





24 APRIL 2025



Session n°17:

## Innovation and technology adoption by entrepreneurs in the Caribbean



*Caribbean Agrifood Business Series* ...



Funded by  
the European Union