

The importance of creating waste-to-energy networks in island contexts.

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International Science, Research and Innovation Conference 2025

Hybrid Event

Date: 18-19 March 2025

University of Seychelles, Seychelles

Discover the PRéRAD-OI platform



The Regional Platform on Agricultural Research for Development in the Indian Ocean (<https://www.prerad-oi.org/>)

- ✓ Regional scientific cooperation in the south-west Indian Ocean;
- ✓ 5 member states of the Indian Ocean Commission (IOC)



NEW NETWORK

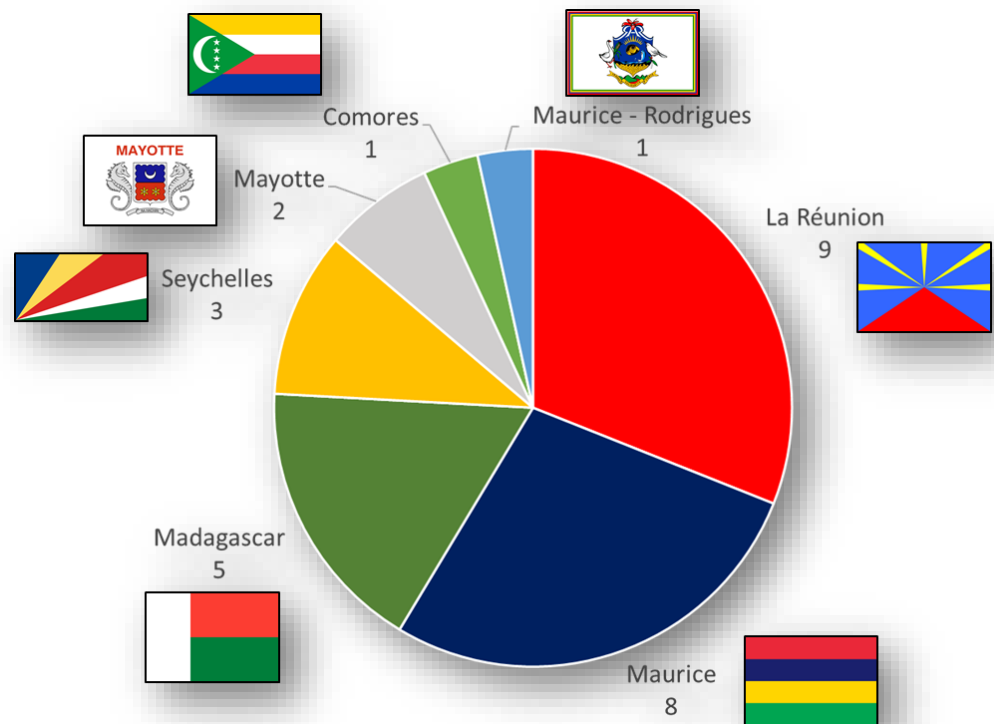
Building a network of actors and competences on biomass-energy

Why building a regional thematic network on "biomass energy"?

- ✓ Continue the Energy program, implemented by the IOC between 2015 and 2019
- ✓ To foster the emergence of a regional thematic network but for targeted needs and within defined themes.



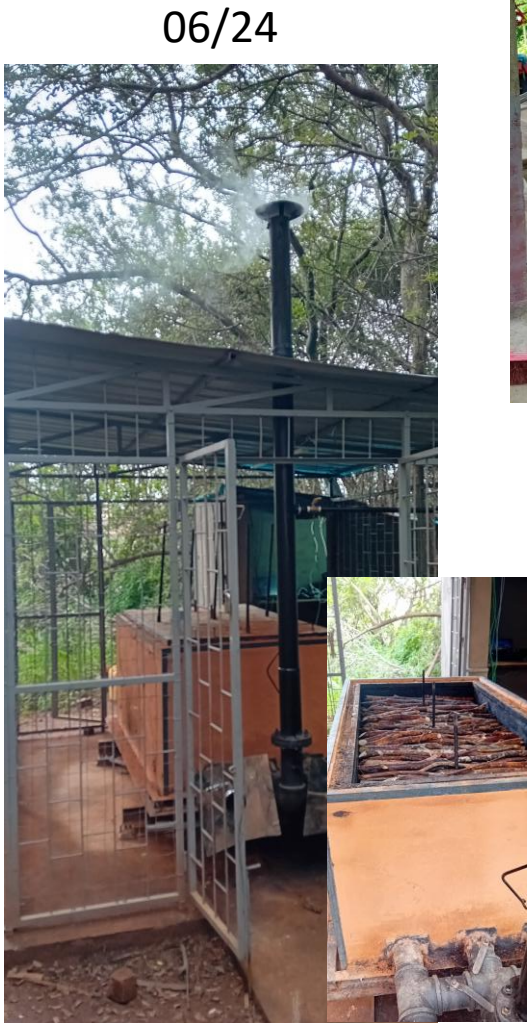
A first survey was conducted (2022)through a detailed form sent to PRéRAD-OI partners



3 cross-cutting themes were identified as the most relevant:

- **Assessment** of wood-energy
- **Compromises** between uses of biomass in terms of their socio-economic and environmental impacts;
- **Energy efficiency** of traditional biomass-energy processes.

Missions carried out within the framework of the project.

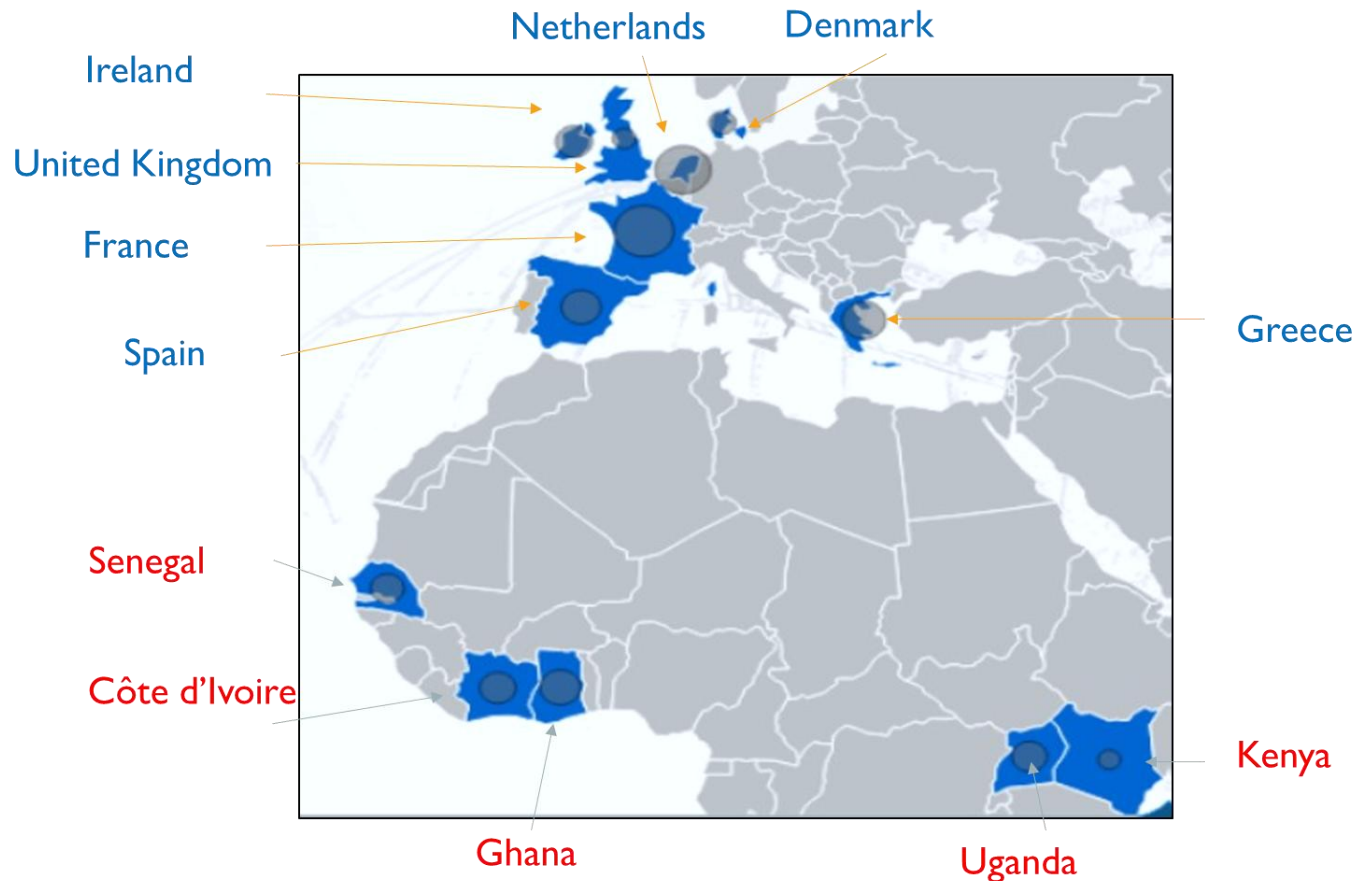


NETWORK



Exemple of African/European network: B4A Project

(<https://www.bio4africa.eu/about-bio4africa/the-bio4africa-project/>)



**CE-SFS-36-2020 “Diversifying revenue in Africa through
bio-based solutions”**

Research and Innovation Action (RIA)

48 months (1 Jun 2021 - 31 May 2025)

European Research Executive Agency

≈ 9 M€

**CENTRE DE COOPERATION INTERNATIONALE EN
RECHERCHE AGRONOMIQUE POUR
LE DEVELOPPEMENT - C.I.R.A.D.**

25 partners (12 different countries)

Exemple of African/European network: B4A Project

(<https://www.bio4africa.eu/about-bio4africa/the-bio4africa-project/>)

- ✓ Transfer simple, small-scale and robust bio-based technologies adapted to local biomass, needs and contexts
- ✓ Set up 4 pilot cases with over 8 testing sites in Uganda, Ghana, Senegal and Ivory Coast
- ✓ Offer to farmers and farmer groups the opportunity to test them in real productive conditions.

Exemple of African/European network: B4A Project

(<https://www.bio4africa.eu/about-bio4africa/the-bio4africa-project/>)

Transferred technologies:

- ✓ Small-scale green biorefinery
 - Proteins for feed animals
- ✓ HTC
 - Biochar for soil amendment
- ✓ Briquetting
 - Briquettes for solid fuel
- ✓ Pyrolysis
 - Biochar for soil amendment + solid fuel + additive for biogaz + adsorbant
- ✓ Biogaz



Biorefinery



Biogaz

Exemple of African/European network: B4A Project

(<https://www.bio4africa.eu/about-bio4africa/the-bio4africa-project/>)

Transfer of pyrolysis kilns with the support of Brazilian universities



UASZ (Sénégal)



INP-HB (Côte d'Ivoire)



SAVANET (Ghana)

Research/Industry partnership in La Reunion

Problematic

- 40,000 tonnes of pallets imported per year
- Landfill disposal

Solutions :

- Energy
- Soil amendment



Palettes



Pyrolysis



Reactor



Biochar



Trials



Substrate



Root observation

Research/Industry partnership in La Reunion



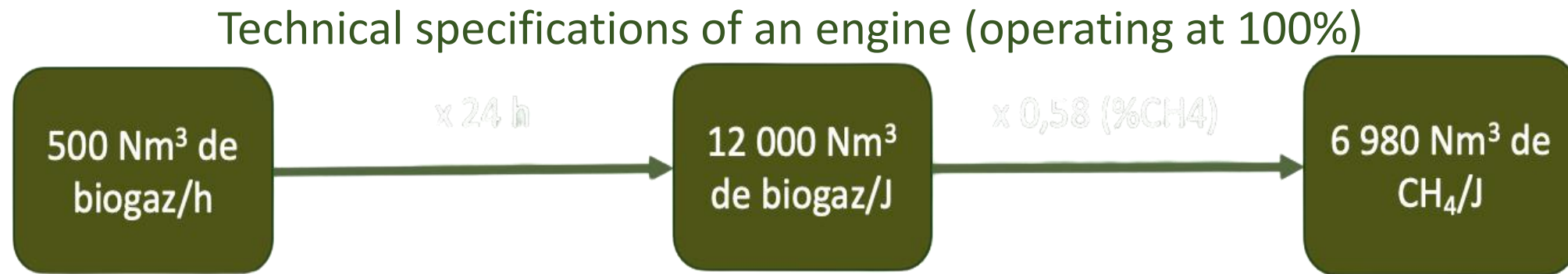
Distillery DRM:

2 active cogeneration engines for 5 months of the year, producing 4 GWh compared to the expected 6.5 GWh (due to a decrease in cane production)



Research/Industry partnership in La Reunion

Objective: To run at least 1 engine for a period of 100 days to compensate for the missing 2.5 GWh, but how? A study of available resources to find an appropriate and exploitable substrate.



Solution: Identification of biodegradable waste resources on the island



Thank you

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