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(1 JULY 2023–1 JULY 2025)



LEAP-RE

Long-Term Joint EU-AU Research
and Innovation Partnership on Renewable Energy

Pillar-1 project



The LEAP-RE project has received funding from the European Union's Horizon 2020 Research and Innovation Program under Grant Agreement 963530.

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Consortium

UM6P, Morocco: Coordinator

UIT, Morocco

UNIPG, Italy

HTW and BEB Berlin, Germany

CNRS-ICARE, France

UKZN, MUT and FGE, South Africa

CDER, Algeria

Cairo University, Egypt

Aim of the project

Develop an integrated strategy to produce bioenergy from slaughterhouse's waste, and to implement solutions responding concretely to the global and regional objectives of sustainable development in a circular economy aspect.

Relevance vs MARs

MAR #1: Assessment of Renewable Energy Sources and integration of RES in sustainable energy scenarios: Developing an integrated strategy to preserve and optimize the natural resource Energy

MAR #5: Processes and appliances for productive uses (agriculture and industry): Integrated technology could be applied at meat production and processing industry allowing the sector an autonomy of energy use.

Key challenges addressed by the project

- 1. High population growth and resource demand**
- 2. Inadequate management of slaughterhouses waste**
- 3. Rural energy needs**
- 4. Complexity of implementing the integrated approach**
- 5. Circular economy sustainability**
- 6. Economic and environmental sustainability**
- 7. Collaboration and synergy**

Expected results :

- ***Mid-term expected results (mid 2024)***
 - Map the availability of SHW feedstock's
 - Qualitative and quantitative analysis of SHW
 - Anaerobic digestion and codigestion trials
 - Develop a catalyst-zeolite matrix for an optimal biogas treatment/biogas separation
 - Qualitative and quantitative characterization of pyro-gasification products from solid digestates of SHW
- ***End of project expected results (2025)***
 - Optimisation of anaerobic digestion using biochar
 - Modelling of the anaerobic codigestion process
 - Optimisation and Biohydrogen production
 - Thermochemical conversion of digestate and syngas production
 - Modelling and LCA
 - Characterisation of value-added products generated from the digestate
 - Assessment of potential commercial applications of byproducts
 - Case studies approaches for typical applications in the target regions (Africa)
 - Scientific publications

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Expected outcomes

1. Create jobs particularly in rural areas where slaughterhouses are often located
2. Generate revenue for rural population
3. Improve waste management and reduce its cost
4. Reduce waste generation

Which main risks could you face during the project implementation ?

1. Sampling logistics and Samples characterization according to the international standards
2. Digesters fluctuations
3. Insufficient initial information for the implementation of risk assessment activities
4. Poor end-user and public stakeholders' acceptance.

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Contribution of the project to AU – EU R&D partnership

Technology Transfer, could lead to innovation and adaptation in both regions, promoting sustainable waste management practices.

Capacity Building, training programs and workshops would empower individuals in both Africa and Europe with the skills and knowledge needed to work on similar projects or replicate the technology in other contexts

Data Sharing can foster collaboration and further research in the field, promoting scientific cooperation

Sustainable Development Goals (SDGs)

Innovation Ecosystems, Development of a supportive environment for R&D initiatives by fostering connections between academia, industry, and government entities

Interest of Consortium members in participating in LEAP-RE clustering activities

Bioenergy and thermochemical conversion Technologies and integrated approaches

Data Collection methodologies and Analysis techniques

Modelling and Simulation practices

On-site Experimentation in diverse geographic locations, sharing data, protocols, and results could facilitate cross-validation and improve the robustness of findings

Lifecycle Assessment: collaboration on lifecycle assessment methodologies, environmental impact analysis, and sustainability indicators.

THANK YOU

CONTACT US FOR MORE INFORMATION



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