

## LEOPARD: DISSEMINATING MICRO-GRID TECHNOLOGY IN WEST AFRICA THROUGH A CONTAINERISED SOLUTION

### CONTEXT

The high potential of solar resources on the African continent and the drop in the prices of solar photovoltaic equipment explain the desire of African countries to massively develop these technologies. However, technical, financial, and regulatory limits remain. The LEOPARD project is helping to overcome these challenges with practical technical solutions and recommendations to improve access to reliable and sustainable energy in West Africa.



### OUR VALUES

- **A collaborative project** stimulating the transfer of skills between public and private partners from Europe and Africa.
- **A research and innovation project** on an economically and socially sustainable containerised renewable energy production solution.
- **A project for the future** encouraging the energy transition in West Africa through a concrete solution that can be reproduced on a large scale.

### OUR OBJECTIVES

- **DEPLOY** two containerised electricity generation pilots in urban and peri-urban areas in Benin.
- **ANALYZE** the conditions and impacts of the interconnection of the off-grid solution to a local micro-grid and to the national grid in the two Beninese localities.
- **OPTIMIZE** the technical and economic benefits, taking into account local uses and ownership.
- **DEFINE** the conditions for replicability and map the areas in Benin and Senegal where the solution could be appropriate.



*The LEOPARD project is one of the eight projects selected under the LEAP-RE programme, "Long Term Joint EU-AU Research and Innovation Partnership on Renewable Energy". The objective of this programme is to create a Europe-Africa research and innovation community to promote renewable energy.*

## UNIVERSITY OF PICARDIE JULES VERNE - FRANCE

The UPJV is coordinating the project to ensure its successful implementation by all partners. It also brings its expertise on isolated and connected electrical systems to support the local partners in defining the detailed specifications of the LEOPARD system.



## AFRICAN RENEWABLE ENERGY SYSTEMS & SOLUTIONS - BENIN

ARESS provides the detailed specification of the solution and assembles the prototypes. It specialises in solar installations for domestic and commercial use and is also developing the remote energy payment system.

## SONGHAI CENTRE - BENIN

The Songhai centre is responsible for monitoring and controlling the installation at the project's two demonstration sites: a rural site and its own centre. The Songhai Living Lab will replicate village conditions to test and evolve the containerised system.



## SOLAR SYSTEM TEST CENTRE (CT2S) - SENEGAL



The CT2S defines the quality control protocol in order to increase the lifespan of the components and reduce maintenance costs. The centre also participates in the replicability study in Senegal and in the training of technicians in the operation and maintenance of the mini-grids.

## EUROPEAN INSTITUTE FOR ENERGY RESEARCH - ALLEMAGNE

EIFER provides its expertise on the modelling and sizing of microgrids thanks to two tools it has developed: "LENI", a GIS (Geographic Information System) tool to assist electrification, and "MemoGrid", for optimising the design of the microgrid.



## POLYTECHNIC SCHOOL OF ABOMEY-CALAVI (EPAC) - BENIN

EPAC draws on its in-depth knowledge of the Beninese context to assess the potential for replicability of the microgrid in the country while ensuring its acceptance by the various target communities.



## MOTORS AND ELECTRICAL DEVICES FOR ENERGY EFFICIENCY - FRANCE

MEDEE oversees the communication and dissemination activities of the project. The cluster is raising awareness on the initiative by capitalising on its approach to supporting collaborative R&D&I projects in electrical engineering with Africa.



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