Benin microgrid control

Benin microgrid control

In the summer 2023, the ARESS teams finalized the installation of the second pilot of LEOPARD project in Benin. This installation will be followed by a quality control mission by CT2S, scheduled for the end of the year.

This second demonstrator aims at providing an autonomous, innovative energy system for productive uses, mainly cooling, in isolated localities with the lowest access to energy levels. Based on the same technology as LEOPARD first pilot, it offers dematerialized control, with multi-source/hybridization management possibilities.

In parallel, the LEOPARD project partners continued working on the replicability of LEOPARD micro-grid solutions in Benin and in Senegal. These studies were especially conducted through LENI, a digital GIS tool developed by EIFER.

To enable researchers and interested individuals to know more about the LEOPARD solutions and their replicability, a webinar was organised on October 25th (in French). This event allowed participants to discuss the replicability of micro-grid demonstrators deployed in Benin as part of the LEOPARD project. The objective of this study is to identify potential sites to duplicate these technological solutions, with a focus on Benin and Senegal.

The event began with a presentation of the GIS LENI tool. This tool, developed by EIFER and updated as part of the LEOPARD project, is a decision support tool aimed at quickly identifying candidate villages in order to deploy rural electrification solutions at the scale of a region or a country.

The LEOPARD project aims to disseminate micro-grid technology by designing, testing, and evaluating a containerized solution for renewable energy production in rural and peri-urban areas in West Africa.

The LEAP-RE consortium gathers 83 African and European partners covering a wide range of sectors: education/research, private sector, policy and funding. Together, they are building a long-term partnership of African and European stakeholders committed to fostering research and innovation for the development of renewable energy.

Enabling remote management of green mini-grids. This is the aim of the project that SparkMeter will be implementing in West Africa in the coming weeks. The smart metering and analytics technology provider has received a $1 million grant from the US Trade and Development Agency (USTDA) to deploy a comprehensive digital analytics platform to improve the operation of solar mini-grids in rural areas.

The SparkMeter remote management system will be operated by Sherlock Grids SAS. This special purpose

company is being set up by mini-grid operator Power:On and Akuo Energy Africa, the subsidiary of French independent power producer (IPP) Akuo Energy. The joint venture between the players is involved in the deployment of off-grid solar systems that contribute to the electrification of rural areas in Benin.

More than a year ago, the two electricity providers were selected in a call for projects by the Off-Grid Clean Energy Facility (Ocef) to build, operate and maintain 10 grid-connected solar hybrid mini-grids in 19 localities in the Atacora and Donga departments in the north of the country. As part of its project, SparkMeter plans to provide advice on developing geospatial models of utility assets and an electrical model of the grid.

Cloud-based software will combine these models with SparkMeter’s smart meter data to produce advanced analyses of grid performance. According to the Washington, D.C.-based company, these services go a step further than traditional feasibility studies. That’s because SparkMeter will use system modelling to provide analytics that provide utilities and other stakeholders with operational information that explains the root causes of network anomalies, tracks trends, shows impacts and suggests improvements.

“By digitising a mini-grid at inception, utilities are able to more easily integrate grid analysis into regular operations. Utilities can then remotely measure, visualise and operate their system, which will replace charcoal stoves, paraffin lamps and diesel generators with clean, renewable energy,” explains Dan Schnitzer, SparkMeter’s CEO. The implementation of these intelligent mini-grid management systems is set to expand in Benin and beyond. For these decentralised systems facilitate and accelerate the electrification of rural areas in sub-Saharan Africa.