MINISTERE DE LA RECHERCHE SCIENTIFIQUE ET DE L'INNOVATION

COMITE NATIONAL DE DEVELOPPEMENT DES TECHNOLOGIES

Présentation générale du projet

Concept of « RURAL ENERGY PLATFORM » (REP) to boost socio-economic activities in a non-electrified rural locality (Village of Mvan Mvong Nyengue, in the Akonolinga district)

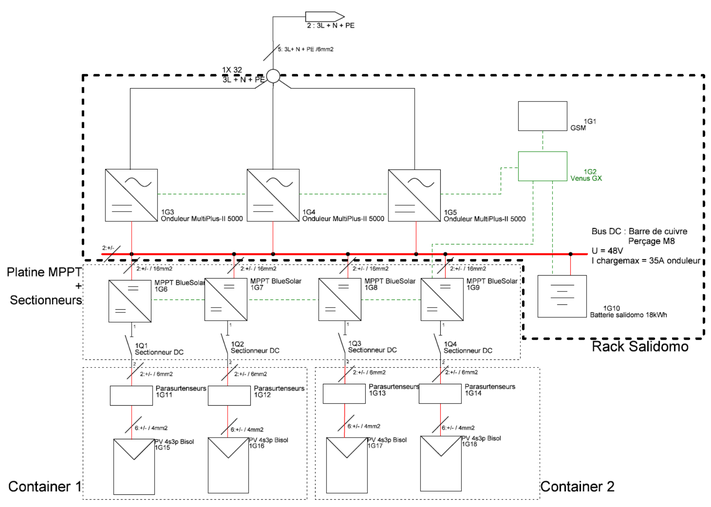
Abstract

In Cameroon, the average rate of access to electricity is estimated at 23% in rural areas [1]. This is mainly due to their isolation and dispersion. This leads to high costs of production and transport of electricity. However, considering the important solar potential of the country (estimated at 4.8 kWh/m^2/day), it is opportune to promote the production of decentralized electrical energy with solar systems. It is in this context that the project of realization of a "Rural Energy Platform (PER)" was born. The goal of this innovative concept is to boost socio-economic activities in rural areas without electricity by facilitating access to electricity and the popularization of manufacturing techniques of solar energy systems. The locality of Mvan Mvong Nyengue has received this project as a pilot site.

Overall goal

Facilitate access to energy services in an isolated rural locality in order to boost socio-economic activities, by providing a sustainable power supply that can support local activities such as the processing of agricultural products, small handicrafts (hairdressing, sewing, manufacture/distribution of solar kits etc.). Fresh water is also supplied for the population and agro-pastoral zones. Social and economic life is promoted with an emergency dispensary, a training room (education, training etc.), various other activities.

Operating principle and design



The solar system that was installed is composed of four main elements:

- 18.5 kWp PV array
- DC/DC charge controllers
- Two sodium-nickel batteries
- A three phase inverter system.

Implementation of the project

Results

Uses of the REP

Partners

REPIC

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

State Secretariat for Economic Affairs SECO

Swiss Agency for Development and Cooperation SDC

Federal Office for the Environment FOEN

Swiss Federal Office of Energy SFOE

HEIG VD | IESE
Institut d'Énergie et Systèmes électriques

HES-SO/HEIG-VD, Rte de Cheseaux 1, 1401 Yverdon-les-Bains
philippe.morey@heig-vd.ch