

## CAMEROUN

### FISP Climat - Energy Pool: A modulation power plant for Cameroon



The electrical energy sector in Cameroon has been experiencing significant growth in its peak demand for a number of years owing to strong urban demand. It is set to see its basic needs increase due to fresh investment in the industrial sector.

#### CONTEXTE ET OBJECTIFS

This growth leads to a power deficit in low-water periods, while in rainy periods the country has excess power. A number of hydroelectric projects are currently planned to tackle these needs, but despite the Emergency Thermal Programme of 100 MW set up to mitigate the delay of certain electricity production units (Gas power stations in Kribi, Nachtigal, Lom Pangar, etc.), the country is still unable to reach a balance between supply and demand.

To tackle this imbalance, one innovative solution is to manage demand through the modulation of electricity consumption.

#### DESCRIPTION

- The Project start in the form of a 20 MW demonstrator over a two-year period, funded by the Ministry for Water and Energy.
- The Project maintain its modulation activity by increasing the commercial exploitation of the power station. The modulation station become operational in June 2014 with a power level of at least 2 MW and increase production as quickly as possible to reach 20 MW during the pilot period and 60 MW by 2019.
- The Project reduce the reliance on costly and polluting peak-load power station solutions, while simultaneously significantly reducing power outages.

The implementation of the Project is based around **four phases**: the first three phases relate to a feasibility study from a pilot 20 MW facility.

These be followed by a final phase of increasing the Pool to reach 60 MW by 2019.

The pilot take place over three phases, with phases 2 and 3 partially overlapping:

**Phase 1:** Electrical Modulation Study and Engineering / Preparation of the pilot: January - June 2014

**Phase 2:** Feasibility Study / Commissioning of the pilot modulation power station, increase in power and operation of the station: June 2014 - April 2016

**Phase 3:** Sustainable Model Study / Consolidation of the modulation station and development of a long-term contract: March 2015 - April 2016

#### IMPACTS

- With regards to the **environmental impact**, the Carbon Assessment® method grades the Energy Pool Cameroon manufacturing impact at 24 tCO<sub>2</sub>, while the Project is set to reduce CO<sub>2</sub> emissions by 8674 tonnes over the period 2014-2019. Other positive effects of the project are the reduction in transportation and distribution losses over the Cameroon grid, better long-term integration of intermittent renewable energies, as well as avoiding the need to construct new

01/12/2014

Project start date

31/12/2019

Project end date

29/09/2014

Project grant date



Yaoundé  
Location



Energy transition and resilient cities sector(s)



subvention, FISP-Climat  
Financing Tool(s)



1 925 000 EUR  
Amount of the program  
Including FFEM funding

500 000 EUR  
Amount of FFEM funding



5 years  
Duration of funding

Energy Pool Cameroun - EPC  
Beneficiaries

Cofinanceur(s)

French Ministry of Economy and Finance  
Institution responsible

polluting peak-load power stations with their associated CO2 emissions.

- With regard to the **economic impact**, a recent study undertaken by ARSEL (Cameroon Electricity Regulation Agency) compared the cost of a 20 MW modulation power station operating 150 hours a year with alternative solutions as practiced under the Emergency Thermal Programme and experienced in Cameroon over recent years. The results of this study reveal an initial estimate of potential savings for the Cameroon electricity grid: €3 million per year not invested in a power station and €6 million per year not used in leasing a power station. Electrical modulation also enables the redistribution of the value created by electrical modulation to local industries participating in the project, thereby generating further savings for them. This has the knock-on effect of sustaining growth in Cameroon, in regard to its industrialisation. But the Project above all enables a reduction in unscheduled power outages, especially during low-water periods, which cause drops in production.
- Finally, with regard to positive **social impact**, having a 20 MW electrical modulation power station contracted with major consumers in Cameroon enables electricity to be freed up for around 200,000 inhabitants during peak hours, and reduces the need for “rotating power outages”, which provide the source for discontent and demonstrations against the powers that be.