

## Kaw - Hybrid power plant

Electricity supply of 1 village



### Country

French Guiana

### Client

Town of Regina

### Date

2007-2008

### Cost of works

€ 1.5M escl.VAT

### Sogreah services

- Supervision of the rehabilitation works



### Background

The village of Kaw is located East of Cayenne, near the Kaw Swamps, within the Regional Natural Park (but opposite the road from Cayenne via Roura). Because of its isolated location, this village has real difficulties to get power supply, not only electricity but also fuel.

The village comprises : 35 houses, 1 school, 1 health care center, 2 restaurants and 2 B&B.

Kaw also needs energy for the drinking water pumping, the sewerage system and the public lighting.

Sogreah-SERT's mission consisted of the supervision of the rehabilitation works of the power plant (implementing a hybrid power plant combining a solar photovoltaic system and a power generator to replace the diesel plant).

This new system, combined with demand-side management actions, will allow to decrease the fuel consumption by at least 70 %.

The monitoring of the works was carried out in collaboration with EauDyssée (a consultant office based in Guiana). It required a perfect co-ordination between all the technicians involved in this project (roads services, electricians, civil engineers, architects, etc.).

GNB/JMR/ebd/1208



### **Sogreah-SERT's services included**

#### **Design of the power plant and the writing of the tender documents**

- Study of the needs for energy.
- Define the demand-side management actions in order to install performing electrical equipments, install DHW solar systems to replace electrical ones, reduce the use of air-conditioning systems (give priority to the improvement of thermal insulation).
- Design the power plant (calculation of the final output, the fuel consumption and the operation costs).

- Size the power plant equipments (PV system, power generators, technical premises, fuel storage, etc.).
- Choose the implementation: PV modules, inverters, power generators, fuel storage, spinner, cables networks and technical premises.
- Write and follow-up the building permit procedures.
- Write the technical and administrative tender documents.
- Help the client analyse the bids and write the contracts.

#### **Monitoring of the works (in collaboration with EauDyssée)**

- Organization of the staking meetings.
- Validation of the design layouts.
- Co-ordination and schedule of the works.
- Acceptance of the works and commissioning of the system.
- Concession grant to EDF (french utility) and training of the users.
- Preparation of the set of record drawings, technical and operation documents of the power plant.