

Promoting Development of Multi-Purpose Mini Hydro Power Systems

Background

The high costs of electricity in Guinea, among other things has had an impact on the production costs of SMEs and reduced economic productivity; consequently limiting Guinea's development.

With regards to rural access to energy, the government has conducted several surveys; results of which show:

- Rural consumers and institutions only use small quantities of electricity for lighting, communication, water pumping, and refrigeration.
- Individual systems or collective systems could provide an intermediate solution that would be affordable for many rural (and the peri-urban) households.

Taking into account these findings, the Government has adopted a new strategy for its Decentralized Rural Electrification (DRE) initiative; which includes: (a) establishing a regulatory framework for the DRE, including the liberalization of tariffs on DRE delivery and services, and the elimination of import taxes and VAT on specific DRE equipment; (b) creating a small rural electrification office for DRE planning; and, (c) creating a financing mechanism.

Current plans tend to consider the establishment of decentralized mini-grids powered by fossil fuels. However, this does not take into account the environmental impacts of this option. It will also increase the country's dependence on expensive imported fossil fuels. The solution is to promote the development of mini-grids powered by the most suitable renewable energy system locally available. In the case, this would be small hydropower given Guinea's major hydropower potential.

The project aims at removing the barriers to the promotion of a market approach to develop multi-purpose mini-grids powered by small hydropower facilities for meeting the growing need for access to electricity in rural areas, as well as the need for irrigation.



Objective

The overall goal of the project is to develop the market environment for improving access to mini hydro-based modern energy services in rural areas.



Project Components

- Upon sufficient mobilization of funds the inception workshop will be organized.
- Increase awareness of technical and commercial viability of mini-hydro by improving the regulatory and financial framework, including the introduction of targeted policy incentives.
- Prepare feasibility studies for two mini-hydro facilities and identify potential private sector investors, developers, and productive uses.
- Design and construct an 800 kW mini-hydro plant at one of the selected sites, providing electricity to approx. 400 local businesses and 3,000 households, representing 20,800 persons.
- Strengthen stakeholder awareness and technical capacities with extensive training on operation, maintenance, and management of small-hydro systems.
- Improve the information system on mini-hydro potential and the investment prioritization system at both the public and private sector level.

Executing Partners/Agencies at National Level

The executing partner/agency in this project is the Ministry of Mines and Energy.

Project Budget

GEF – US\$ 1 million (including PPG and agency fees); Co-financing – US\$ 1.5 million

Progress

- The study on the feasibility of the Keno small-hydro system has been finalized.
- Mobilization of the additional financial resources by the government and UNIDO is in progress in order to enable the option 2.1 MW selected by the government.
- Upon sufficient mobilization of funds the inception workshop will be organized.

Activities	Timeframe	
CEO Endorsement/Approval	April	2012
Implementation Start	May	2012
Project Closing Date	February	2016

Contact

UNIDO
Ms. Fatin Ali Mohamed
Energy and Climate Change Branch, UNIDO
F.AliMohamed@unido.org

