

## Mini-Grid Based on Renewable Energy (Biomass) Sources to Augment Rural Electrification

### Background

This project aims at promoting renewable energy, primarily biomass based mini-grids as viable options for augmenting the rural electrification programme in Nigeria. The demonstration of viable and sustainable RE based mini-grid projects will enable the Government to further establish the appropriate policy and regulatory framework and contribute to the development of a conducive market environment for increased private sector investment programmes.

Given the country's resource endowment, the project will focus on promoting a biomass mini-grid project of 5 MW capacity, with biomass based power having a huge potential for scaling up in the country. Considering the fact that the supply-demand gap existing in Nigeria is about 12,000 MW, replication potential of proposed project is significant to meet this gap.

The project is designed to provide support in creating an enabling policy and market environment for the attainment of the targets set for renewable energy, including the policy, regulatory and institutional framework and financing issues for setting up mini-grids; capacity-building; as well as public awareness. If successful, the project will enable the government to scale up and replicate best practices across the country. As such, the project has a number of specific aims: (i) commercialized development of renewable biomass power and GHG reductions are sustained by removing technical, policy and capacity barriers; (ii) the energy service of electricity generated from renewable sources can be used for rural livelihoods by increasing the access to modern forms of energy; (iii) GEF financial commitment and the presence of a specialized agency like UNIDO will provide confidence for project investors; and (iv) rural communities' trust in such technologies will be raised, to encourage their enhanced use and replication.



### Objective

To develop policy and a conducive market environment in order to promote renewable energy (biomass) based mini-grids for augmenting rural electrification and productive uses in Nigeria.

### Project Components

- Develop business plans and techno-economic feasibility studies for 3 identified potential RE sites in order to facilitate replication.
- Strengthen the financial and policy environment to support RE based mini-grid systems for productive uses by aiding in the design of a feed-in-tariff for biomass power and the establishment of an appropriate financing facility.
- Design and construct a 5 MW biomass power based mini-grid for productive uses.
- Establish a system to independently monitor and evaluate the biomass power based mini-grid project, and disseminate lessons learned and vital information collected from the project.
- Strengthen stakeholder awareness and technical capacities with extensive training on operation, maintenance, and management of biomass power systems and mini-grids.
- Enhance the capacity of local planners, institutions, and experts for future scaling up of renewable energy based mini-grids in the country.

### Executing Partners/Agencies at National Level

The executing partners/agencies in this project are the Energy Commission of Nigeria and the Federal Ministry of Environment, Housing, and Urban Development.

### Project Budget

GEF – US\$ 3 million (including PPG and agency fees); Co-financing – US\$ 12 million

### Progress

- Inception Workshop was held in August 2012.
- The tender document for power plant is under preparation.
- The study on feasibility of the mini-grid is ongoing.
- The special-purpose generation company was established.
- The acquisition of approvals from the local regulatory authorities is ongoing.

Activities	Timeframe	
CEO Endorsement/Approval	November	2011
Implementation Start	November	2011
Midterm Evaluation	October	2013
Project Closing Date	October	2015

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