

Note: The TOR below describes tasks to be undertaken to bring at least 2 minihydro subprojects, out of an initial long list of 20, to financial closure. The consultants will conduct the prefeasibility studies on 10 candidates. The private developers will be responsible for doing the full feasibility studies on subprojects that have successfully obtained letters of intent from the utility for power purchase.

Terms of Reference Preparation of Mini-hydro Private Power Projects

Background

<Brief description of the Bank project: objectives, components and preparatory tasks related to the present assignment. Resource potential and current status of use. Comments on local suitability of the technology. Potential beneficiaries of minhydro power projects. >

Objective

1. The objective of this study is to prepare for financing under the Bank project about 10 (e.g.) mini-hydro subprojects that would sell power to the grid. Both greenfield projects (e.g., newly identified sites or irrigation channel drop structures) as well as projects to rehabilitate existing mini-hydro sites will be considered.

Scope of Work

2 The consultants will guide mini-hydro private power project preparation activities through all of the steps necessary, plus assist in the documentation required to ultimately bring at least two (e.g.) projects to financial closure for financing under the RED project. The consultants will conduct the following five tasks:

- Task 1 - Screening and Preparation of Short List
- Task 2 - Prefeasibility Studies
- Task 3 - Negotiations with Power Utility
- Task 4 - Finalization of Subproject Packages for Financing

Task 1 - Project Screening

3. The consultants will select from the current inventories 20 potential mini-hydro subprojects that would then be reduced to a preliminary short list of about ten. The criteria for selection include:

- Range of capacity from 500 kW to 5000 kW
- “Run of river” operation without pondage
- High utilization of installed capacity
- Standardized electromechanical components to the degree possible
- Minimal environmental and adverse social impacts
 - Reasonable assurance of completing the subproject during the Bank project life
 - Interest and capacity of site owner/investors to undertake development

Task 2 - Pre-investment Studies

4. The consultants will conduct an in-depth evaluation of the ten priority projects identified, including:
- i. Technical feasibility, based upon the project hydrology and site conditions will be assessed. Existing feasibility studies, if any, will be updated.
 - ii. Environmental and resettlement impacts, during both construction and operational phases

- iii. Economic and financial evaluation, including a breakdown of the estimated costs by local and foreign source. The financial analysis will use current terms and pricing of power purchase by the national utility, as well as prevailing loan terms and interest rates in the local financial markets.
- iv. Necessary government clearances and approvals.
- v. Implementation Schedule.

5. The results of this task are 10 Pre-Investment Study Reports

Task 3 - Negotiations with Power Utility

6. The consultants will assist the potential subproject developer present its proposal to the power utility with the goal of obtaining a "Letter of Intent (LOI)" from the utility to purchase the power to be produced by the minihydro plant.. The Pre-investment Study Report will be main basis for the discussions.

Task 4 - Finalization of Subproject Packages for Financing

7. Armed with the LOI from the power utility, the developer arrange for the conduct of the full feasibility study. After completion of the study, the consultants will assist the developer prepare the final sub project package for financing.. They will help identify all documentation requirements, and assist in the application for financing under the Bank project. At least two subprojects should be assisted to financial closure.

Deliverables

- Ten (10) completed Pre-investment Studies
- At least two (2) Project Packages, each comprising a detailed feasibility study, tender documents, financing plan, LOI, and application for financing by the Bank project..

Consultant Skills and Level of Effort

8. It is estimated that about ten staff-months each of a civil engineer and electro/mechanical engineer with experience in mini-hydro development will be required. In addition about four staff-months of an economist/financial analyst and three staff-months of a project financing specialist will be required. About 1 staff-month of an environment and social safeguard specialist will be required. The estimated levels of effort may change depending on remoteness/accessibility of site and quality and availability of data.