

## **FEASIBILITY STUDY FOR A MODEL GAS TO POWER PROJECT OKOGBE COMMUNITY, RIVERS STATE NIGERIA**

### REQUEST FOR PROPOSAL

#### **1.0 Introduction and Background**

Living Earth Foundation (LEF), an international NGO engaged in promoting sustainable development in different parts of the world, has received EC funding for a 'gas to power' project to be implemented in the Niger Delta region of Nigeria. The proposed community-based demonstration power project is a component of a larger SUNGAS (Sustainable Utilisation of Nigeria's Gas and Renewable Energy) project for which the International Institute for Environment and Development (IIED) is the lead implementing agency. Other components of the SUNGAS project include: renewable energy implemented by Niger Delta Wetlands Centre (NDWC); and policy advocacy component implemented by Social Development Integrated Centre (Social Action).

The 'gas to power' demonstration project will utilise associated gas, from SPDC's Ubie flow station in Rivers State through an appropriate technology and generate electricity for domestic and small business consumption. The types and numbers of consumers to be served will be approximately 3,000 households and 500 small businesses as well as 5 health centres and 6 schools.

The proposed feasibility study on the gas to power project will enable LEF and its partners to:

- Gain a better understanding of the pattern and level of energy utilization by domestic and industrial consumers
- Select appropriate technology and scale of the power plant to meet the community's energy needs
- Evaluate the technical and economic feasibility of the project for decision making

#### **2.0 Scope of Work**

To meet the above stated objectives, the following scope of work has been elaborated to guide prospective bidders in developing their proposals.

It is expected that the study will include the following activities:

- (a) Detailed survey of household and community economic activities to determine current energy demand levels over the course of an average day and project over the next five years.
- (b) Evaluate the range of available natural gas fired technologies to generate power and recommend the most appropriate based on sound technical and socio-economic parameters.
- (c) Determine the optimum scale of the power plant, type of distribution system (single wire earth return, single phase, 110 or 230 V?) and estimate all the physical and material inputs for power generation, transmission and distribution.
- (d) Identify the location of the power plant and other system facilities (e.g. sub-stations, transformer sites, power house, access roads etc)
- (e) Carry out soil resistivity tests covering all civil structure sites.
- (f) Detailed engineering design and preparation of the Planning and Implementation Documents for the project covering:
- Detailed engineering specification of the power generation facility
  - Comprehensive evaluation of commercially available technologies for power generation
  - Evaluation of gas fired thermal energy generation technologies to supply the non-power energy needs
- (g) Design of power transmission Infrastructure.
- (h) Design of power distribution network for supply of power to consumers.
- (i) Design of power house/offices.
- (j) Financial Analysis of the project
- Project Cost Estimation (Capital, Operations and Maintenance)
  - Techno-Economic Feasibility Analysis of the Project
  - Power Pricing Analysis Including the Consideration of Subsidies and Consumer Tariffs and Subsidies

### **3.0 Proposal Submission**

It is suggested that each submitted proposal should include the following sections:

1. Executive Summary
2. Approach and Methodology
3. Project Deliverables
4. Project Management Approach
5. Detailed and Itemised pricing
6. Appendix: References
7. Appendix: Project Team Staffing
8. Company Overview

*All quoted prices must be in Euros.*

#### **4.0 Deadline for Proposals**

All proposals must be sent by email to: [info@livingearth.org.uk](mailto:info@livingearth.org.uk). The deadline for the submission of proposals is 6pm June 4, 2010.

#### **5.0 Evaluation of Proposals**

The final selection will be based upon the proposal with appropriate consideration given to operational, technical, cost, and management requirements. Evaluation of bids will be based upon the bidder's responsiveness to the RFP and the total price quoted for all items covered by the RFP.

*This request for proposal was issued in London on May 4, 2010*