

## Request for Proposals (RFP) for Demand Assessments for mini-hydro projects in Rwanda – Tender No. SOGER/E4I/2017/01

RFP deadline: 20/11/2017

### 1. Context and Background

**The Scaling up Off-Grid Energy in Rwanda (SOGER)** is a SIDA funded program, implemented by Energy 4 Impact, with the objective to support the growth of a sustained market for off-grid renewable energy in Rwanda, by helping the private sector to deliver energy access to unserved or underserved people in rural areas in a way that is inclusive of people living in poverty.

There are two components under SOGER programme. One of the components is: **Renewable Energy Small Projects (RESP) Development Facility**. RESP aims to accelerate the development of small isolated mini-grid RESP projects in Rwanda.

**Energy 4 Impact** is an energy NGO registered in the United Kingdom and with operations across Sub Saharan Africa. Energy 4 impact's focus is on accelerating access to energy in rural and peri-urban areas by providing the energy sector participants with technical, financial and operational advice to accelerate the growth of business that deliver access to clean energy: helping entrepreneurs to access capital, technology and operational advice which enables them to become profitable and sustainable but also sharing lessons learnt to contribute to the development of the energy sector.

Energy 4 Impact also assists renewable energy entrepreneurs and projects access capital, through a variety of programs including: a SME-focused grant platform and associated technical assistance fund, business plan challenge competitions, and collaborations with credit supporters for local financial institutions providing loans to energy entrepreneurs.

To learn more on Energy 4 Impact and SOGER visit our website:  
<http://www.energy4impact.org/about/programmes>.

### 2. About the Projects

The RESP program is supporting 8 energy projects in Rwanda. Of the 8, 4 are hydro projects and the rest are solar mini-grids. Under the hydro projects there are three (3) projects that require a demand assessment to inform business decision on building a distribution network.

The three hydro projects have already conducted feasibility studies for the power generation; the potential power for projects ranges from 700 kW to 1.6 MW. Initially, power generated was to be sold to the national grid, however the project developers are now considering building their own distribution network in the off-grid villages surrounding their generation plants.

To support the business case for independent distribution networks, a demand assessment is needed. The demand assessment is required to assess the electricity demand and the ability to pay by households, productive users and social institutions in communities within the generation plant.

This request for proposal is for one of the projects detailed below:

**Location:** Nyamagabe District, Southern Province

**Potential Size:** 731 kW

**Population within:** >1000 households, 2 Banks, 10 bars & restaurant, 10 churches, 1 sector office, 1 police office, 1 health centre, 20 schools and 1 anchor customer (UNILEVER tea estates and factory)

### 3. Scope Of work

The objective of the demand assessment will be to **assess the electricity demand and the ability to pay by households (Affordability), productive users, social institutions and anchor customers in communities within the generation plant.** Hence the contractor will need to design a methodology, conduct on the ground research and provide detailed data and reports on the results of the assessment to Energy 4 Impact. Specifically the assignment will cover the following:

#### Activities

1. Identify the information needed – The contractor will work with Energy 4 Impact to identify comprehensive information needed when conducting a demand assessment to inform economic feasibility of building a power distribution network. Some of the information needed include:
  - a. Population distribution
  - b. Number of villages/households available in the catchment area
  - c. Number of people per category ( Women Vs Men)
  - d. Social economic background
  - e. Load profiles
  - f. Ability and willingness to pay (Revealed and expressed)
  - g. Distance from the grid
  - h. Distance between villages
  - i. Productive uses of energy
2. Define the variables - The contractor will work with Energy 4 Impact to establish the parameters and variables to be observed. The variables observed could be in form of proxies or direct variables in themselves.
3. Formulate the necessary questions for the survey – The contractor will need to develop a questionnaire to be used in conducting the survey. The questions should encapsulate all the data required and should be able to provide answers to (but not limited to) the following:
  - a. Ability and willingness to pay by Households and Businesses
  - b. Current energy usage
  - c. Current energy needs by households
  - d. Energy needs by women
  - e. Productive use opportunities/ survey and market opportunities
  - f. Potential jobs to be created
  - g. Energy demand per connection
  - h. Affordability of connection cost and electric appliances
  - i. Social economic activities
  - j. Seasonality of economic activities
  - k. Current/Potential productive uses
  - l. Household loads, productive use loads, commercial use loads
  - m. Possible anchor loads

- n. Extension/resettlement plan if available
  - o. Financial institutions present to finance electrical appliances
  - p. Technology providers for electrical appliances in the villages
4. Design and test the survey tool – the design will have to be presented to Energy 4 impact for evaluation and later tested on a sample to examine its workability.
5. Design the database – data collected from the survey will be presented to Energy 4 Impact in form of data base. The contractor will hence need to collect and store these data in an easy to access data base.
6. Determine the size of the survey sample – Following this the contractor will need to come up with a statistically significant sample of the submitted population to which the demand assessment will be conducted. The sample must include the following categories: Households, Small Businesses, Productive Use and Anchor loads. The survey should clearly specify the number of women and youth to be interviewed in each category.
7. Establish a methodology and produce a map of the project area – the contractor will need to come up with a methodology that will be used to conduct the survey. This methodology will be presented to Energy 4 Impact in the technical proposal before conducting the survey.
8. Select a random sample within the villages – The contractor select a sample out of the villages presented to conduct the survey in.
9. Conduct the survey – The contractor will have to go to the ground and Collect the data by interviewing the local communities in highlighted categories and upload the connected data in the developed data base
10. Enter, revise, and tabulate the data – The contractor will store the data, re-collect the data where deemed necessary due to omissions, smaller than expected sample, statistically insignificant data, wrong data or any other reason that will deem the data collected un-usable.
11. Analyze the data – The contractor will analyze the data and present to Energy 4 Impact indicators established in activity 1 above.
12. Present the final results –The contractor will present the final result of the analysis to energy 4 impact in the following formats: A data base of the raw data and the cleaned data, analysis made and outputs hence.

### **Deliverables**

The contractor shall submit the following deliverables to Energy 4 Impact. The following deliverable will be project based for each of the three above mentioned projects. Those deliverables required for later activities shall be presented to Energy 4 Impact for approvals before the actual dependent activities are conducted.

- Survey Tool – Questionnaire encapsulating questions whose answers will provide the indicators identified in activity 1.
- Methodology – Custom made methodology detailing how the contractor will conduct the demand assessment
- Database – A database containing both the raw data and cleaned data
- Analyzed data – An analysis of the data presenting findings which will capture indicators identifies in activity 1
- Report on the demand assessment – report on the data collected and other items observed while conducting the survey,
- suggestion and recommendations especially on willingness, social economic consideration , gender and affordability
- Presentation of the demand assessment – a final presentation to Energy 4 Impact on result of the demand assessment

## 4. Timeline and location

The timeframe for this assignment is 5 weeks and will be carried out in Rwanda. General locations where the project are based have been listed above. The specific locations and sites will be provided at a later stage.

Activity	Time
Selection of contractor:	20/11/2017-30/11/2017
Contract negotiations:	1/12/2017-7/12/2017
Conduct feasibility study and present findings :	14/12/2017-15/1/2018

The consultant will work in close collaboration with the Programme Manager of Energy 4 Impact. Energy 4 Impact will provide the consultant with all available programme documents, oversee and monitor overall progress, ensure that deliverables are completed to a high standard, and provide input and guidance on the final deliverables.

## 5. Contractors Profile

The selected contractor for this demand assessment will be an individual/company/organisation having the following experience and knowledge:

- Proven experience in conducting demand assessments preferably within energy related programs
- Proven experience in designing and conducting surveys in remote locations preferably for energy related programs
- Understanding of mini-grids projects and community participation in such projects
- Understand gender and environmental aspects in social economic development of an area.
- Team leaders should have relevant qualifications in the fields of Statistics, Data Analytics , Engineering and Energy
- Should have supporting credentials on previous demand assessment conducted preferably in Rwanda
- The team should preferably be proficient in English, Kinyarwanda and French

## 6. Proposal guidelines

The submitted proposal should have two components the Technical and Financial components. The Financial component should be separate from the technical component.

### Technical Proposal

The project technical proposal should not exceed 15 pages, excluding appendixes. The proposal should be divided into the following sections:

- **Section A:** About the Contractor, Overall Objectives and Approach
- **Section B:** Related Previous Work and Studies
- **Section C:** Work plan, Methodology and Timeline
- **Section D:** Description of Study Team and Roles: include organisational and personnel qualifications as directly relevant to the study

- **Section E:** CVs of Key Team Members: one-page maximum for each proposed team member, as well as key sub-contractors, assistants and/or project consultants should be submitted
- **Section F:** Credential and references for any previous work done on demand assessment especially on energy projects

### Financial Proposal

The financial proposal should be submitted separately from the technical proposal. The financial cost should be itemized with description of cost.

## 7. Evaluation criteria

Proposals received will not be opened until the deadline for submission of proposals. Any submissions missing either the technical component or the financial component will be disqualified. The technical component of the proposals will be opened first. The proposals that will have passed the Technical Evaluation will thereafter be subjected to a Financial Evaluation. The financial component will not be opened until after the Technical Evaluation is finalized.

### Technical Evaluation

The total possible score for the technical component will be a maximum 100 points. Technical proposals scoring above 70 points will be considered successful for the Financial Evaluation. The shortlisting criteria will be as shown in the table below.

Major Criteria	Details & Sub-Criteria	Possible Score
General Experience	<ul style="list-style-type: none"> <li>• Minimum 5 years' experience conducting demand assessment in Rwanda or East Africa</li> <li>• Experience in the energy sector especially in mini-grids</li> <li>• Experience in working in remote villages</li> </ul>	15
Technical Experience	<ul style="list-style-type: none"> <li>• Methodology used</li> <li>• Experience in developing and maintaining data bases</li> <li>• Experience in data analytics</li> <li>• Experience in building survey tools</li> </ul>	30
Team	<ul style="list-style-type: none"> <li>• Each personnel mentioned in the proposal has a minimum of 4 years of expertise in the field that he/she shall be assigned.</li> <li>• Overall the team has proficiency in English, French and Kinyarwanda</li> <li>• The team has qualification relevant to demand assessment and conducting research</li> </ul>	30
Credentials	<ul style="list-style-type: none"> <li>• The consultant has provided similar services to at least 4 firms before</li> <li>• The consultant has provided reference for similar work conducted before</li> <li>• The consultant has proposed a methodology to be used in conducting the study</li> <li>• The consultant has provided a sample tool that they consider to use</li> </ul>	25
<b>Total Possible Technical Score</b>		<b>100</b>

**Financial Evaluation**

Only those applications that will meet the minimum score requirements in the technical evaluation will be considered. The bidder(s) are encouraged to select the preferred Project (A, B or/and C). The financial proposal will constitute 20% of the final score.

**8. Submission of expressions of interest**

You are hereby requested to submit a technical as well as a financial proposal and confirm your availability to commence the works immediately after receiving the contract approval.

Proposals should be submitted by 20/11/2017 electronically to [Victor.Hakuzwumuremyi@energy4impact.org](mailto:Victor.Hakuzwumuremyi@energy4impact.org) and copied to [Daniel.kuria@energy4impact.org](mailto:Daniel.kuria@energy4impact.org) and should include the following title: "Tender No. SOGER/E4I/2017/01" in the subject line.