



Call for proposals

(for Metering System)

Energy 4 Impact is an international advisory organization supporting the energy sector in Sub-Saharan Africa. We deliver demand-driven, practical, and customized support to SMEs, project developers, social enterprises, and micro-enterprises that provide renewable energy services to off-grid communities.

In Rwanda, Energy 4 Impact is managing Scaling Up Off-Grid Energy in Rwanda (SOGER) which is a Sida funded programme supporting the growth of sustained market for off-grid renewable energy in Rwanda by helping private sector developers to delivery energy access to unserved and underserved people in rural areas.

SOGER comprises of two components, designed and developed to respond to the country's challenges and the government's priorities with regards to poverty reduction and energy access in rural areas:

- **Component 1:** Renewable Energy Small Projects (RESP) Development Facility: to accelerate the development of small isolated mini-grid RESP projects.
- **Component 2:** Pico-hydro project development: to support the development of pico-hydro micro-utilities, to provide sustainable electricity to rural communities.

Background:

SOGER programme has already implemented two Pico hydro projects, which receives a range of technical and financial advisory supports during the programme period to improve and increase the commercial viability of these mini-grids. The above projects are community-based projects.

Among other technical and financial assistance SOGER provides to its developers, it support private developers in evaluating and procuring materials as well as in installing and commissioning of mini-grid projects.

SOGER, hereby, invites interested companies to submit their technical and financial proposals for the **provision of 265 households and businesses at a pico-hydro mini-grid site in Rwanda with a metering system; this will include the physical meters and vending platform (please see details below).**

Interested companies are requested to submit their proposals at the address below by **22nd August 2019**. Due to tight deadlines, delivery of meters is required by **15th September 2019**.

Experiences and Qualifications:

- Have substantial experience in supply of metering systems to mini-grids in East Africa
- Have a qualified and experienced team
- Preference shall be given to local companies.

Products Required

Product	Number
Single Phase Meters	260
Three Phase Meters	5
Vending Platform	1

All products should meet technical specifications as outlined below.

Technical Specifications

➤ **Meter**

Meter must be compliant with IEC62055-31 Prepayment meters for Active Energy (Class 1 and 2)

Specification sheet of meters

Parameter	Single Phase	Three Phase
Nominal voltage	230V (80%- 115%)	3x380V (80%- 115%)
Norminalcurrent /Frequency	5(60)A 50Hz	10(100)A 50Hz
Connection type	Direct connection	Direct connection
Maximum current	80A	100A
Accuracy class (Active Energy)	IEC Class.1	IEC Class.1
Voltage circuit burden	≤1.5W & 1.2VA	≤1.5W & 5VA
Current circuit burden	≤0.2VA	≤0.5VA
Main closure Protective class	IP 54 as IEC 60529	IP54as IEC 60529
Insulation protective class	4kV Class II	6.5kV Class II
Surge immunity	4 kV	4.3kV
Electrostatic discharge	15kV	16kV air discharge
Immunity to HF fields	80MHz to 2GHz@30V/m	80MHz to 2GHz@30V/m
Immunity to fasttransientburst	4.3kV	4.3kV

Radio interference	As CISPR22	As CISPR22
Battery life without power	10 years	10 years

➤ **Vending Machine**

1. An electricity vending system which must be compliant with IEC62055-41 STS standard data transferring protocol - Application layer data transferring protocol (The Standard Transfer Specification).
2. The Vending System must have the capability to vend to all meters installed in the Mudasmwa Mini Grid Project service area; All are STS meters.
3. **INTEGRATION**
 - 3.1. The Vending System shall have an Application Programme Interface (API) to allow third parties to access the system securely for integration purposes. The API must be web based.
4. **Report:** It shall be possible to search the audit log under various parameters to easily locate details of changes written to the system databases.
5. **Transaction Switching**
 - 5.1. The transaction switch shall include a billing system where different commissions for different services as well as vendors could be calculated.
 - 5.2. The transactions switch shall either include, as an option, or be able to integrate to an electronic fund transfer (EFT) switch to facilitate mobile payments.
6. **Languages & Currency**
 - 6.1. Standard language available on the system shall be English
 - 6.2. Standard currency available on the system shall be Franc Rwandais.
7. **VENDING OPTIONS**
The system should as a minimum, cater for:
 - 7.1. Voucher-based vending using pre-printed vouchers and SMS.
 - 7.2. Mobile Points of Sale vending via handheld vending devices operation on GPRS / GSM.
 - 7.3. Cell phone vending for mobile vending agents using standard cell phones to sell electricity.
 - 7.4. Internet Web Site vending.
 - 7.5. Connection interface for third-party vendors and services.

Documents to submit:

- ✓ Full technical and financial proposal
- ✓ A short introduction of the company profile and geographic presence: 2 page max, company brochure if available
- ✓ Areas of relevant experiences highlighting experience of metering supply (max 2 page)
- ✓ List of five reference clients, name of client and address
- ✓ Timeline for delivery

Please Note: The project is under a tight deadline and therefore delivery of the meters is required before 15th September 2019. Therefore please include a timeline in the proposal to show how you intend meet this deadline.

Interested companies are requested to submit their proposals at the address below by **22nd August 2019 to:**

innocent.ndayishimiye@energy4impact.org with copy to william.wells@energy4impact.org

For any further information and clarification, please write to innocent.ndayishimiye@energy4impact.org.