

Field Testing Refrigerators and Solar Water Pumps in off and weak grids settings, East and West Africa

CLASP EOI 1-20

Seeking Firms to Support Refrigerator and Solar Water Pump Field Testing

CLASP is seeking a qualified consultant(s) to implement a series of field testing projects focused on refrigerators and solar water pumps (SWPs) in off and weak grid settings. The field testing will take place in select markets in India, Kenya, Uganda, and Senegal with the potential of expanding to other countries. The goals of the projects are to 1) measure and evaluate how the products perform in the field (i.e. real-world environments); 2) assess how users interact with and are impacted by these products; and 3) establish a technical foundation for future appliance field testing. Consultants will be hired for single or multiple project work areas and tasks based on their expertise, skillset, and location.

The project series is implemented by the Efficiency for Access Coalition through the Low Energy Inclusive Appliances (LEIA) Programme. The LEIA programme is a UK Aid funded research and innovation programme that seeks to double the efficiency and half the cost of a range of electrical appliances suited for off- and weak-grid household, small business, and industrial consumers.

About Efficiency for Access

[Efficiency for Access](#) is a global coalition working to promote high performing appliances that help scale clean energy access for the world's poorest people. It is a catalyst for change, accelerating the growth of off-grid appliance markets to boost incomes, reduce carbon emissions, improve quality of life and support sustainable development. Efficiency for Access has grown to a coalition of 15 donor organizations with programs aiming to scale up markets and reduce prices for super-efficient, off- and weak-grid appropriate products, support technological innovation, and improve sector coordination.

Project Scope and Goals

Approximately 200 refrigerators and SWPs, in off and weak grid contexts, will be monitored across India, Kenya, Uganda, and Senegal for at least six months. Remote performance monitors will be retrofitted to track usage patterns and technical performance (i.e. quantitative data such as energy consumption, power supply, refrigerator temperature, SWP flow rate/yield, motor speed, etc.). During this monitoring period, three rounds of qualitative data collection (baseline, mid-term and end-line) surveys will be administered to product users to collect data on user behavior, preferences, and impacts. The quantitative and qualitative data gathered through these methods will be organized and presented in real time through an online interactive platform where users can conduct some high level analysis and visualization with download options in CSV or other MS based formats.

Work Areas & Tasks

While exact tasks and activities have not been defined, consultants or firms are invited to express interest in some or all of the projected activities below.

Consultants should list the work areas of interest and the preferred geographies of operation.

Work Area 1: Hardware installation and Technical Data Collection

- Task 1.1: Advise CLASP on final selection of appropriate remote performance monitors suitable for each location and appliance.
- Task 1.2: Configure remote monitors to the appropriate local networks (GSM, Sigfox, LORA, Weightless etc.)
- Task 1.3: Collaborate with the CLASP and “Work Area 2: Customer Surveys” teams to identify appropriate data format through which these remote monitors will send data to a central repository for processing and visualization.
- Task 1.4: Install remote monitoring equipment into all products.
- Task 1.5: Train users on user led troubleshooting. This will involve training the respondents on simple debugging and troubleshooting options that may not require the on-site attention of technicians. (resetting remote monitor, interpreting LED signals etc.)
- Task 1.6: Provide ongoing support to ensure remote monitoring devices continue operating (i.e. measuring and communicating data) during 6-month testing window, including activities such as equipment maintenance and replacement, and communication with equipment manufacturers, as needed.
- Task 1.7 Lead the retrieval process of all the monitors at the end of the monitoring phase, if required.

Work Area 2: Customer Surveys

- Task 2.1: Review survey tools provided by CLASP, translate (if necessary) and adapt them to the local context of each country.
- Task 2.2: Develop an appropriate data collection plan and timelines for each country.
- Task 2.3: Train and deploy field data collection teams in each country.
- Task 2.4: Collect baseline, mid-term and end-line data through in-person interviews with respondents. (See timelines section below)
 - Train data collection staff of deployment of survey tool for in- person surveys
 - Deploy and manage in- country data collection staff
- Task 2.5: Collaborate with “Work Area 1” team to ensure data is successfully collected from products throughout 6-month testing window.

Work Area 3: Data Management & Visualization

- Task 3.1: Collaborate with “Work Area 1: Hardware Installation and Technical Data Collection” and “Work Area 2: Customer Surveys” teams to collect product and user data from the field throughout the 6-month testing window.
- Task 3.2: Develop (or leverage an existing) conceptual framework for organizing, processing, and communicating product and user data to the CLASP team. This will mostly require a dashboard and/or other visualizations.
- Task 3.3: Create (or leverage an existing) technical solution (i.e. model and dashboard) based on conceptual framework to store, process, and visualize data. The solution should be:
 - dynamic to allow for data to pass through it during the entire 6-month testing window;
 - simple and built on an accessible software platform to allow the CLASP team to operate independently.
- Task 3.4: Operate technical solution to store, process, and communicate data to CLASP team throughout 6-month testing window.
- Task 3.5: Ensure the technical solution (Task 3.3) operates successfully during the 6-month testing window via maintenance and troubleshooting as needed.
- Task 3.6: Collaborate with “Work Area 4: Data Analysis” team to ensure that Tasks 4.1 and 4.2 are aligned with overall project goals.

- Task 3.7: Train CLASP team to revise and operate technical solution for future use.

Work Area 4: Data Analysis

- Task 4.1: Analyze product and user data gathered through field testing tasks, and compare to laboratory testing data and other research to identify relevant insights about:
 - how off-grid refrigerators and SWPs perform in the field (i.e. real-world environments);
 - how users interact with and are impacted by these products.
- Task 4.2: Develop a report that summarizes findings and insight from the field testing.

Timeline

		2020												2021				
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Scoping and Preparation Activities																		
1	Development of field testing protocols																	
2	Selection of respondents for field testing (LEIA Team)																	
3	Procuring remote monitors (LEIA Team)																	
4	Technical training of installers																	
5	Training on qualitative data collection																	
6	Pre-testing of remote monitors (With a subset of respondents) - LEIA Plus Consultant																	
7	Revision of Field Testing Protocols (If needed)																	
Field Testing/Monitoring																		
8	Deployment of remote monitors																	
9	Baseline survey/Complementary customer data																	
10	Continuous Monitoring and Debugging																	
11	Midterm Survey																	
12	End of term mini-survey + Retrieval of Monitors																	
Synthesis (Analysis and Reporting)																		
13	Analysis and Reporting																	
14	Presentation of findings (Dissemination Workshop)																	

Submission Instructions

To express your interest in working as a CLASP consultant, please do the following:

- Register as a CLASP Consulting Partner ([click here to register](#)). **Important Note: Do not complete the Pre-Qualification Questionnaire (PQQ).** We will contact you if we need you to complete the PQQ.
- For consultants: Submit a single file named “Your Name: EOI 2-20” in English using the [template provided](#) with the following contents:
 - Expression of interest (up to one page in length) including description of your relevant strengths/experience;
 - Curriculum Vitae of the proposed consultant(s).
- For firms: Submit a single file named “Firm Name: EOI 2-20” in English using the [template provided](#) with the following contents:
 - Expression of interest (up to one page in length) including description of your relevant strengths/experience;
 - Organizational profile.

Consultants should indicate the preferred country/countries for each work area.

Following the submission period, successful candidates will be shortlisted and invited to submit full proposals for any of the work areas and tasks listed. If needed, there will be a further tender process for delivery, such as a request for proposals (RFP). Participation in this Expressions of Interest (EOI) will not jeopardize consultants or firm’s abilities to bid for the potential RFP.

Incomplete proposals will not be accepted. All questions during the process may be addressed to Michael Maina at mmaina@clasp.ngo. Please send your submission to the same email.