**Innovative Business Models in the Off-Grid Appliance Sector**

**Terms of Reference**

# Background

The Off-Grid Appliances Business Models Research Project has been commissioned by the Low Energy Inclusive Appliance (LEIA) programme with funding from UK aid and IKEA Foundation.

UK aid funds the LEIA programme, which aims to accelerate the availability, affordability, efficiency and performance of a range of low energy inclusive appliances. LEIA is part of the Efficiency for Access Coalition, which aims to accelerate global energy access through energy-efficient appliances and is jointly managed by [Energy Saving Trust](http://www.energysavingtrust.org.uk) and [CLASP](http://www.clasp.ngo).

## Opportunity

The LEIA programme has a research mandate that includes consumer, market, impacts, and technical research activities. The off-grid energy sector, particularly the plug and play solar home system kits sector, has seen various innovations in technology, access to finance, and manufacturer or distribution company business models over the past years, and these have been extensively covered in published literature. A key example being the prominence of the Pay-as-you-go (PAYGo) model that allows households to pay for the costs of solar energy systems through regular, affordable instalments via a remote locking mechanism to help enforce payments. However, for off-grid appliances, not enough has been published about business strategies to inform organisations involved in sale of these appliances. The Energy Saving Trust (EST) therefore proposes to launch this research with the objective of bridging this literature gap by investigating and publishing ‘shareable’ innovative strategies in appliance led organisations (with their consent) that can help make end products more affordable and/or affect the appliance organisations’ bottom lines profitably.

The main audience of the outputs of this work are expected to be entrepreneurs in early stages of appliance businesses so they could learn from successful strategies of early movers, as well as donors, investors, incubators, foundations, etc. so they could be informed of the diversity of innovate strategies being adopted in the different contexts they operate in.

This work forms part of a wider research effort for the LEIA programme to help support a variety of stakeholders in the off-grid appliance sector. It will also contribute towards the Research and Development Fund managed by LEIA on a funding call specific to innovative business models. Through this research project, we will focus on innovation in business models that aid in expanding affordable access to weak and off-grid appliances or that aid in enhancing the profitability of the organisations involved in the sale of these appliances.

# Objectives

This project will research and publicise information on a wide range of innovative business models that help expand access to various household appliances including lighting, mobile phones, radios, televisions, fans and refrigerators all for home use and productive use appliances such as refrigeration units, solar water pumps and other productive equipment. This work would also include enabling technologies such as smart batteries, controllers, smart power management systems and other enabling technologies that would be pivotal in expanding access to, and improving affordability of these appliances, in contexts where these technologies are central to the business model issue they are being used to solve. See section 3.2 Business Model Themes, for further information. The LEIA programme will aim to publish between 8-10 case studies during the project, each case study covering an innovative business model for off-grid appliances.

The project’s key objectives are as follows:

1. Research innovative business models being utilised by organisations in the weak and off-grid appliance sector.
2. Support the development of a database of innovative business models.
3. Develop and publicise case studies and supporting information (such as a compilation of lessons learnt, best practices and a guidance document for donors, investors and governments with a vested interest in organisations’ success in these ventures) to assist stakeholders in the sector.
4. Build the knowledge of the LEIA team and the Efficiency for Access Coalition members in this subject area.

# Approach

We will deliver this research project through a combination of the Energy Saving Trust research team and an external consultant, contracted specifically for this project. The consultant should have strong experience of the energy access sector and ideally experience in working with off-grid appliance organisations within developing countries. While this solicitation for consultancy is only for the next 10 months, see section 6 Timescales, based on the success and reception of the outputs within this period, this research fund may get extended subject to funding availability.

## Definition of an innovative business model

For the purpose of this scope of research, innovative business practices across the downstream value chain of an organisation will be considered. Such practices should be a novel way to overcome the issues inherent in doing business in last mile communities, or a technological innovation woven around a business model such that it impacts the business bottom line positively and helps expand access to appliances. An example of a technological innovation woven around a business model is Acceleron’s use of an upgradable, repairable and recyclable lithium-ion battery. An application of such a model based on circular economy of a battery in rural last mile context can help bring down costs associated with system upgrades as the user expands their use of appliances over time, having substantial impact on system affordability while tackling battery e-waste problem.

## Business Model Themes

In order to focus the research, several key themes will be defined and serve to ‘bucket’ innovative business models into various categories. These themes include but are not limited to:

1. Sales & marketing
2. Distribution
3. Installation
4. Consumer financing
5. Consumer awareness/training/support
6. Agent/retailer recruitment/training/retention
7. Use of business management software, after-sales service and customer acquisition
8. Business models based on innovative technology that makes a substantial impact on organisations’ bottom line and/or appliance affordability and access.

Two themes will be selected for this scope of work and the consultant will develop 4-5 case studies within each theme, such that each case study details a specific innovative business practice or innovation within the theme.

The case studies should follow a uniform format to allow for comparison of different innovations within each theme, and clearly illustrate as far as feasible which innovations could work in which contexts. These case studies are expected to be guidance documents to both inspire and inform new organisations in the off- and weak-grid appliance sector and provide illustrative examples of successful organisations to donors.

The consultant will work in close coordination with the EST research team to select appropriate organisations to be covered within each theme. The selection of the organisation and its corresponding innovative practice will be based on the following broad criteria. The organisation practice in question:

is innovative

helps expand access to, and affordability of, appliances

is based in the downstream value chain of the business

While this is subject to change at the discretion of the EST research team, the two themes most likely to be covered within this scope of work are innovative end-user distribution models and innovative technological solutions. As an example, one of the case studies within the innovative distribution models that ought to be investigated are women led entrepreneurs creating last mile distribution networks for off-grid appliances. One notable example in this space is Solar Sister. The consultant will work with the EST research team to identify other innovative organisations that depend on women led entrepreneurs for last mile distribution.

## Methods

### Desk research and phone interviews with experts within identified organisations

The consultant will support the EST research team in identification and building descriptions of innovative business practices to inform the development of an EST lead business models database. Such a database will cluster innovative business model practices by key themes. This database will be a more comprehensive exercise and will not be limited to the two themes that will be covered as part of the scope for building case studies. The consultant will submit initial suggestions of a shortlist of organisations to be covered under case studies and a rationale for this selection to the EST team based on an optimum research design. EST team will lead the final selection of organisations.

Once the organisations to be covered under various case studies have been identified, the consultant will approach key persons in these organisations together with the EST team to secure their consent to be part of the case study, to gain more information about their models, and to agree on a template for information that can be public facing.

### Field research

Once the shortlist of business models has been decided, the consultant will undertake field work (where possible) or remote interviews to further research the organisations’ business models. The aim will be to collect primary data via surveys with a selection of end users and/or distributors/sellers of off-grid appliances, gathering quotes and qualitative data. This will provide an indication of how innovative and effective the business model is, validating the desk research and providing valuable content for the case studies.

# Deliverables

## Inception report

The consultant would prepare an inception report outlining their approach to the different elements of research and deliverables required for the project.

## Series of case studies, each covering an innovative business model for off-grid appliances.

Areas we would expect the case studies to cover as a minimum, would include:

* Organisation details: type (manufacturer/distributor/NGO), location(s)
* Appliance technology type(s)
* Explanation of the business model and details of how it is innovative
* Numbers of users/subscribers/purchasers of the company’s products/services
* Details of end-users: numbers, demographic, location
* Opinions from beneficiaries and last mile entrepreneurs/resellers involved in this organisation
* Impact of the innovative business model in enhancing access to the appliance: how has the business model helped expand sales of the appliance(s) in question? Why is this business model practice superior from the alternatives on the market?

## Other case study formats

The consultant will also adapt the case studies in podcast format and will be responsible for the development of the transcript for podcasts related to the case studies under question. Each podcast is expected to be 40 – 50 minutes long. Depending on the content available and merit in speaking about few business models practices together, a few case studies can be combined into a single podcast. The consultant will also develop a presentation deck that can be used to present findings at relevant conferences.

## Webinars and support in research dissemination

The consultant will support EST team in research dissemination by delivering 2-3 webinars and/or participating in 1-2 events as directed by the EST team.

## Business model database

Additionally, the consultant will provide content and formatting support in the development of the EST led business model database.

## Aggregate analytical report

The consultant, with the support of the EST research team, will lead the development of a “synthesis report”, compiling key lessons learnt and best practices, with a chapter for each theme or some other way of organisation. This would serve as a guidance document that would advise donors, (both impact/commercial) investors and governments for designing their financing interventions.

# Roles and Responsibilities

## The Contractor

* Will develop a rationale for the selection of the two business model themes and a long list of suitable organisations to be covered within the two themes.
* Will submit an initial shortlist of organisations to be covered as case studies under each theme along with a rationale for this selection.
* Will identify a long list of suitable organisations to be covered within the two themes.
* Will conduct research and lead the development of the case studies in line with the methods described in Section ‘3.3 Methods’ above.
* Will provide support in the development of the EST led business models database.

## EST team

* Will lead the development of the business models database with support from the consultant.
* Will lead the final selection of the organisations to be covered as case studies from the long list of suitable organisations identified by the consultant.
* Will support the consultant in establishing contacts with the organisations to be covered under the case studies.

# Timescales

An indication of the proposed timescales are as follows:

* January 2020 – February 2020: Recruitment of consultant (individual or firm)
* March 2020 – Inception report
* March 2020 – April 2020: Desk research and field research design
* May 2020 – June 2020: Field research
* July 2020 – August 2020: Research, analysis, writing
* September 2020 – Finalization of drafts with EST research team
* October 2020: Design finalization, publication of case studies and research dissemination

# Submittal

Interested parties are required to submit two separate proposals: A Technical Proposal and a Financial Proposal. The files should be named as per the following example: “[Contractor Name] \_ [Technical/Financial] Proposal\_RFP [Name]”.

The Technical Proposal should not exceed 15 pages in length and must include the following elements:

* A detailed approach and methodology for implementation and management of the project. Include a description of the role of each team member if applicable. [2 to 5 pages]
* A summary of qualifications of key personnel that will be engaged in the assignment. Technical knowledge in both household and productive use off-grid appliances or enabling technologies for appliances applicable in this project is an advantage as well as academic research qualification e.g. PhD/MRes (Master of Research). [2 to 5 pages]
* A summary of understanding of successful business models related experience or experience in publishing case studies in appliances, and related experiences of developing the type of database as mentioned in this proposal, including any experience in energy access for off-and weak grid communities. [2 to 4 pages]

The Financial Proposal must include the following elements:

* Detailed budget estimate (in US Dollars) outlining fees and expected expenses for the duration of the project. Detailed budget should include all direct and indirect cost estimates for executing the project, detail specifically:
  + a breakdown (in days) of the level of effort associated with the activities and a daily rate.

EST team will evaluate proposals received from respondents. Selection of the candidate will be based upon the following criteria:

1. Robustness of methodology
2. Relevant qualifications, including working knowledge of the off-grid energy sector, and broad technical knowledge in mechanical/electrical engineering and business models.
3. Experience in managing and working with diverse stakeholder groups to achieve consensus
4. Total cost and value for money
5. A due diligence process performed by EST on both financial and safeguarding.

The deadline for application is **17:00 GMT, January 31, 2020**. Proposals must be emailed to David Angelini at david.angelini@est.org.uk.

All questions may be addressed to Richa Goyal at [Richa.Goyal@est.org.uk](mailto:Richa.Goyal@est.org.uk) and Andrew Tod at andrew.tod@est.org.uk. The last date for submission of questions related to this RFP is January 20, 2020. We request all inquiries be made by e-mail and not by phone.

# Sustainability

To promote environmental best practice, the Energy Saving Trust will place emphasis on the environmental credentials of its contractors.  Each respondent is therefore required as part of their proposal to provide details of their environmental certification relating to ISO140001 and ISO50001 (if appropriate), environmental policy or any other relevant information regarding their approach to sustainability. Responses should outline the organisation’s commitment to minimize negative environmental impacts and reducing energy consumption when delivering this contract.

# Terms and conditions and invoicing

Contractors will be expected to sign Energy Saving Trust’s standard terms and conditions (available on request). Payment schedule will be agreed at the stage of contract signing.

# Conflict of Interest

In order to ensure that research is of maximum benefit to the wider community, it must be impartial and seen to be impartial. Bidders must be free of any conflicts of interest regarding which direction the market for off-grid appliances might take.  This means that bidders must not have commercial interests in the market taking any particular direction. The types of situation that could lead to conflicts of interest include if the bidder is:

* A manufacturer or supplier of off-grid appliance equipment or components;
* A current or recent past contractor to a single manufacturer or to a small number of manufacturers of a particular type of appliance;
* An economic operator with a commercial interest in the market moving in a particular direction.

Bidders must declare if any such conflict exists or if it could be perceived to exist based on their status and work history and, if so, how this would be managed to guarantee impartiality.

# Freedom of Information Act

Pursuant to the Freedom of Information Act 2000 the Energy Saving Trust may be required to disclose certain information to third parties and/or the public.  Respondents must notify the Energy Saving Trust in writing when submitting their proposals which parts of the proposal are considered to be commercially sensitive. Please note that it is not possible to classify the whole document as non-disclosable.  Failure to notify the Energy Saving Trust indicates that no commercially sensitive information has been submitted.