



Sustainable Off-grid Refrigeration Programme

Terms of Reference

1st June 2025

OFFGRID REFRIGERATION MARKET DEVELOPMENT EXPERT

1. Background and Introduction

The Nigerian Rural Electrification Agency (REA) is the Implementing Agency of the Federal Government of Nigeria (FGN) under the Federal Ministry of Power tasked with the electrification of unserved and underserved communities to catalyse economic growth and improve quality of life for Nigerians. The Mandate of the REA is structured around three dimensions of (1) promoting Rural Electrification in the country (2) coordinating the Rural Electrification Programmes in the country and (3) administering the Rural Electrification Fund (REF) to promote, support and provide rural electrification through Public and Private Sector Participation.

The United for Efficiency (U4E) initiative, led by the United Nations Environment Programme (UNEP), has been established to support developing countries in accelerating the adoption of energy-efficient and climate-friendly appliances. As part of its mission, U4E has developed Model Quality and Performance Guidelines for Off-Grid Refrigerating Appliances to support the adoption of energy-efficient, climate-friendly refrigeration technologies in areas without reliable grid electricity. This project focuses on deploying off-grid refrigeration solutions in Nigeria that meet these guidelines.

In furtherance of these mandates, the Rural Electrification Agency (REA) is implementing the Sustainable Off-grid Refrigeration Programme in partnership with The United Nations Environment Programme (UNEP), which aims to catalyse the widespread adoption and deployment of energy-efficient off-grid refrigeration solutions in rural and underserved areas of Nigeria.

In light of the foregoing, the Rural Electrification Agency would like to receive Expression of Interest (Eoi) for the services of an **Off-grid Refrigeration Market Development Expert**.

Rural Electrification Agency

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2. Objectives and Scope of the Assignment

A targeted market assessment will be conducted to identify the key barriers hindering the widespread adoption of sustainable off-grid refrigeration technologies in rural Nigeria. This will include:

- **Analyses of Target Communities:** Identifying 3-5 potential communities for pilot implementation.
- **End-User Segmentation:** Categorizing potential end-users of refrigeration in off-grid communities (i.e. small businesses, healthcare facilities, agricultural cooperatives, etc.) and their specific refrigeration requirements.
- **Technology Assessment:** Surveying available off-grid refrigeration products in the Nigerian market including a comprehensive overview of locally manufactured refrigeration technologies
- **Community Engagement:** Hosting interactive sessions with the targeted local communities to showcase real-world applications of off-grid refrigeration, build trust, and encourage community ownership of the solutions.
- **Business Case Development:** Based on the assessments of the target communities, developing a simplified business model for end-users to integrate the use of off-grid refrigeration.
- **Pilot Design Framework:** Creating a detailed implementation plan for the demonstrations and pilot schemes of energy efficient refrigeration in selected off-grid communities

3. Consultant Competencies

The required qualifications and experience of the applicant are as follows:

- An advanced university degree (Masters or equivalent) in Engineering, Economics, Environmental sciences or related fields
- At least 5 years of relevant work experience across market & business intelligence covering the electricity, rural economies, and related sectors
- Experience working with the UN, and UNEP in particular, international organizations, and similar agencies would be an advantage
- Previous experience in conducting similar assignments
- Clear understanding of the market dynamics in Nigeria, especially the off-grid refrigeration space
- The applicant may be an individual consultant, consulting company, think tank, research organisation, academic institution or any similar organisation with the relevant qualifications and experience.

4. **Clients input to Consultant**

- a. Orientation will be provided to consulting lead by the REA regarding the broader scope for this assignment and any other relevant information.
- b. Relevant resources, documents, and information (as may be applicable) will be provided to enable the consultant to meet the deliverables.

5. **Reporting and Deliverables**

The deliverable for this assignment is a **Market Assessment Report**. This is a comprehensive technical report documenting the results of the market analysis and community engagement communications. This report will be in two sections presented below.

a. *Market Assessment Section:*

- a. Profiles of 3–5 potential pilot communities with off-grid energy access and refrigeration demand
- b. Segmentation of end-users by type, cooling needs, and daily usage profiles
- c. Comparative assessment of available off-grid refrigeration technologies in the Nigerian market, including a comprehensive overview of locally manufactured refrigeration technologies
- d. Identification of supply chain gaps and after-sales support availability
- e. Financial modeling and business cases for different end-user types
- f. Detailed pilot design framework (target users, deployment plan, M&E system)

b. *Community Engagement Communications Section:*

- a. Reports from community engagement sessions: presentation/communication materials used, locations, session format, participation statistics, user perceptions, and behaviour insights. Include a summary of media activities, such as social media engagement/press coverage (if applicable).

5.1. **Timeframe of the Services**

- Engagement period: July - August 2025

5.2. **Milestone Schedule**

The consultant is required to submit their deliverables within the given timeframe from the execution of its contract as follows:

	Deliverables / outputs
1	Inception Report – including Methodology and Work plan of activities to be completed during the assignment
2	Submission of First draft of report of Market Assessment report
3	Submission of final draft report of Market Assessment report

5.3. Reporting

The consultant shall work with the Project Manager to ensure the successful and timely completion of the assignment in accordance with objectives, schedule, and budget.

Kindly apply on or before 30th June 2025.