# LEVERAGING SUBSIDIES TO ACHIEVE SDG 7 IN HUMANITARIAN AND DISPLACEMENT SETTINGS

END USER SUBSIDY LAB

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## ABOUT THE GLOBAL PLATFORM FOR ACTION ON SUSTAINABLE ENERGY IN DISPLACEMENT SETTINGS

The Global Platform for Action on Sustainable Energy in Displacement Settings (GPA) is the global initiative promoting the inclusion of fragile and displaced communities in the SDG 7 agenda. Steered by a group of 15 humanitarian and development organisations, the GPA pursues its mission across five working areas. Through its Data, Research and Evidence workstream, the GPA produces high-quality data and evidence on effective approaches for delivering energy access in these communities. Under its Innovative Finance and Funding workstream, the GPA designs and mobilises resources for mechanisms that de-risk fragile settings to enable private sector engagement and crowd in capital.

## ABOUT THE END USER SUBSIDY LAB

Recognising the need for responsibly designed subsidies, GOGLA, ESMAP, EnDev, and the Clean Cooking Alliance have partnered in support of the End User Subsidy Lab, a collaborative platform that pools knowledge, technical expertise, and funding to drive smart, scalable subsidy design. The lab's mission is to advance responsible, data-driven subsidy design that accelerates progress toward SDG 7—universal access to affordable, reliable, sustainable energy. While decentralised renewable energy markets have transformed millions of lives, affordability remains one of the greatest barriers to inclusive energy access. To fully bridge the affordability gap, well-designed end-user subsidies are a key component—directly reducing costs for the lowest-income consumers while safeguarding market stability. The EUSL supports governments, donors, and practitioners in developing smart, scalable, and context-sensitive subsidy mechanisms that enable equitable energy access and ensure that no one is left behind in the clean energy transition.

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# ABBREVIATIONS & ACRONYMS

| | |
|---|---|
| AMPERE | Accessing Markets through Private Sector Enterprises for Refugee Energy |
| ASCENT | Accelerating Sustainable and Clean Energy Access Transformation |
| BECO | Baidoa Electricity Supply Company |
| BMZ | German Federal Ministry for Economic Cooperation and Development |
| CCA | Clean Cooking Alliance |
| DMRV | Digital Monitoring, Reporting, and Verification |
| DSS Component | Demand Side Subsidy Component |
| EASP | Electricity Access Scale-Up Project |
| EAQIP | Electricity Access Quality Improvement Project |
| EnDev | Energising Development |
| EPC | Electric Pressure Cooker |
| ESMAP | Electricity Sector Management Assistance Program |
| FASER | Fundo de Acesso Sustentável as Energias Renováveis |
| FCDO | UK Foreign, Commonwealth, and Development Office |
| GIZ | Germany Development Agency |
| GOGLA | Global Off-Grid Lighting Association |
| ICS | Improved Cookstoves |
| IDP | Internally Displaced People |
| IOM | International Organisation for Migration |

# ABBREVIATIONS & ACRONYMS

| | |
|---|---|
| NL MoFA | Netherlands Ministry of Foreign Affairs |
| NORAD | Norwegian Agency for Development Cooperation |
| NORCAP | Norwegian Capacity to International Operations |
| OPM | Office of the Prime Minister |
| PUE | Productive Use of Energy |
| RE4R | Renewable Energy for Refugees |
| RBF | Results-Based Financing |
| RBF4R | Results-Based Financing for Refugees |
| RHD | Refugee Hosting District |
| RVO | Netherlands Enterprise Agency |
| SDC | Swiss Agency for Development and Cooperation |
| SDG | Sustainable Development Goal |
| SHS | Solar Home System |
| SIDA | Swedish International Development Agency |
| SNV | Netherlands Development Organisation |
| THEA | Transforming Humanitarian Energy Access |
| UECCC | Uganda Energy Credit Capitalisation Company |
| UNHCR | UN High Commissioner for Refugees |
| UNICEF | UN Children's Fund |
| USAID | US Agency for International Development |
| WFP | World Food Programme |

# EXECUTIVE SUMMARY

**Energy is essential for enabling community resilience and inclusive development. Yet today, 40 million displaced people are estimated to lack access to electricity and 50 million cook with polluting fuels.** These displaced communities are mainly located in hard-to-reach settings in low and middle-income countries with energy access gaps. In addition to facing affordability constraints and limited access to existing markets, displaced communities face specific challenges which shape their ability to procure reliable and quality energy products and services. These can include language and cultural barriers, exclusion from public services in their host country or community, uncertainty about their future living situation, and restrictive policies around their right to work and live outside of camps, among other factors.

**As climate change worsens, a growing number of people will experience displacement as a result of climate shocks, disasters, and conflict, and more people will be living in fragile, climate-affected, and vulnerable settings.** This makes it even more crucial to develop effective tools and approaches now to ensure that crisis and displacement-affected communities can achieve long-term access to sustainable energy.

**Well-designed subsidies, including results-based financing (RBF), can de-risk private sector engagement and enable the growth of robust and inclusive energy markets.** To date, over $2.6 billion has been invested in energy access-related RBF programmes alone in 20 countries (SEforALL 2025). Subsidies can be leveraged to close the affordability gap for low-income customers. They also mitigate the additional cost and risks for companies seeking to serve harder-to-reach communities. Among last-mile distributors, those which have accessed RBF are more likely to serve customers who are low-income and live in more remote locations (GDC 2025). In fragile and emergency settings, subsidies can also protect the market from shocks and engage private companies in the humanitarian response, strengthening early recovery efforts.

**While this tool is already being used in humanitarian contexts, little effort has been made to document and communicate lessons on designing subsidies that overcome specific challenges of displaced communities.** The present research identified at least 35 programmes in recent years which have either targeted or made efforts to include displaced communities. The present report makes a first step in closing the literature gap by unpacking the approaches taken and lessons learned in five of these programmes implemented in sub-Saharan Africa.

Electricity access enables appliance uptake by households and businesses.

# CASE STUDIES

| Programme Name | Humanitarian Context |
|---|---|
| **Electricity Access Scale-Up Project** | The nationwide programme operationalises Uganda's policy commitments around refugee integration into the economy and national energy planning. Supply-side financial incentives and technical assistance have helped companies achieve targeted sales of off-grid solar products in refugee-hosting districts. Yet developing an adequate support package to incentivise new companies to expand to these markets has proven challenging. |
| **Demand-Side Subsidy Component** | The Uganda programme under the multi-country Demand-Side Subsidy (DSS) Component has produced important learnings for driving sales in refugee-hosting districts which have informed the Electricity Access Scale-Up Project and other larger-scale programmes. In Niger, the programme has trialled and developed strategies for stimulating growth in nascent markets amid significant fragility and political volatility. |
| **FASER Results-Based Financing Programme** | The large-scale national programme in Mozambique employs a multi-window structure which leverages streamlined administration to deploy tailored subsidies. This approach has made it possible to quickly launch subsidy windows as part of the early recovery response to climate-related emergencies and to include internally displaced people in development-focused energy access programmes. |
| **Results-Based Financing for Refugees** | The Results-Based Financing for Refugees (RBF4R) programme provides performance-based subsidies and technical assistance to expand clean cooking access in five refugee camps in Rwanda. A token-based eligibility system targets refugee households, and three pellet-based clean cooking companies have been engaged to operate in the camps, demonstrating that well-designed incentives can drive uptake. However, sustained support beyond the programme will be needed to maintain private sector engagement. |
| **Enter Energy Somalia Productive Use of Energy Programme** | This pilot under the Enter Energy Somalia programme sought to leverage reliable power supply from the expansion a local mini-grid to support businesses in the Barwaaqo settlement for internally displaced people (IDPs). Close collaboration with local government and financial partners, and the use of subsidies for de-risking made it possible to unlock appliance loans for several IDP-led businesses. Yet implementation challenges reinforced the need for tailored and flexible financing mechanisms to support low-income business owners. |

# Key Lessons

**The analysis revealed that the nuanced impacts of subsidies in humanitarian and displacement contexts are not well captured in the standard metrics for evaluating the programme success – such as sales numbers, first-time access delivered, and scalability.** In all five case studies, subsidies were effective for delivering energy access in protracted displacement settings, preserving the market during shocks, and mobilising the private sector in the humanitarian response. However, sustainable market ecosystem development in highly challenging contexts requires significant time and resources. This raises concerns that these settings may be overlooked by ambitious new efforts to make rapid progress on Sustainable Development Goal (SDG) 7 by the approaching 2030 deadline. These efforts are likely to favour untargeted subsidies and encourage implementing partners to maximise connections per dollar spent.

**The case studies clearly show that intentional targeting is essential for reaching humanitarian and displacement settings.** All programmes profiled only reached these communities because they set out to do so, drawing on existing research, expertise from humanitarian partners, and data on displaced communities for programme design. Even then, developing the right mix of financial incentives and technical assistance to mitigate risk for companies and stimulate demand among displaced customers has proven challenging. Flexibility in design and implementation was also key, as it enabled implementers to adapt to quickly shifting conditions common in emergency, fragile, and displacement settings.

**On the demand side, subsidies must enable customers to afford products they want and need while preserving fairness between displaced and host communities.** Findings from several programmes indicate that low-income displaced and host community members are more interested in purchasing higher-tier and multifunctional products. Thus, programmes should focus on making these preferred products affordable rather than targeting customers with lower-tier, lower-quality products simply because they are cheaper. At the same time, it is important that any subsidies tailored for low-income displaced people also increases access among host community members to ensure equity and prevent tensions between hosts and refugees.

**On the supply side, companies may be hesitant to target complex and high-risk settings, especially if subsidy programmes are short term.** Programme designers must carefully consult companies to understand the real and perceived risks of expanding into hard-to-reach settings. These may include logistical and administrative issues, a lack of knowledge on how to best engage customer groups, or limited liquidity and access to working capital. Even when company support is well designed, if a programme ends before the market ecosystem is sufficiently developed, companies may be unable to continue operating in these hardest-to-reach contexts. In countries where there are already businesses operating in or near displacement settings, it can be expedient to design programmes to support their expansion rather than incentivise new entrants.

**Coordination between humanitarian, development, and government partners is also essential for the success of subsidy programmes targeting or inclusive of displacement settings.** Displaced communities are often served by parallel systems run by humanitarian agencies and their humanitarian affairs counterparts whose buy-in, data, and expertise is essential to ensuring programmes are well designed and smoothly executed. Where multiple subsidy programmes are running at once, as in Uganda, regular meetings between stakeholders and alignment of programme dynamics are key. This prevents duplication and market distortion, creates opportunities for partners to pool resources, and facilitates knowledge-sharing.

**Where possible, subsidy schemes targeting humanitarian and displacement settings should be designed within or with the aim of eventual scale-up into larger national programmes.** National subsidy schemes typically have the longer timelines and more substantial resources needed to develop market ecosystems in different contexts. Inclusion of displaced people in these programmes can support their integration into national energy planning, basic service provision, and economic opportunities. To be effective in reaching displaced people, these larger programmes must incorporate learnings from current and past efforts to reach these communities as well as the expertise of partners with a deep understanding of social and market dynamics in these contexts.

# Recommendations

Recommendations developed from the analysis call for donors, policymakers, companies, and implementing humanitarian and development organisations to take the following actions:

- **Work together to ensure that funding continues to remain available for subsidy programmes in humanitarian and displacement settings.** This includes developing new metrics that adequately capture the nuanced benefits of subsidies as a tool for increasing access in highly complex contexts where progress is likely to be non-linear and scaling will happen at a slower pace. Amid the pressure to achieve SDG 7 by 2030, donors and development partners must not lose sight of their responsibility to these communities and energy's essential role in enabling them to live better lives.

- **Design flexible subsidy programmes that can quickly adapt to changing circumstances and are tailored to displaced people's needs and situation.** Potential logistical, operational, and financial disruption risks tied to emergency and fragile settings must be identified, and contingencies built in during the programme design phase. Additionally, subsidy levels and other measures to stimulate demand in displaced communities should be culturally appropriate and enable customers to afford products they need and want to use.

- **Ensure subsidy programmes provide the right financial incentives and adequate support to enable the companies most interested in serving displaced and hard-to-reach communities to grow.** This requires close consultation with companies to understand actual barriers to engagement, for example, the common concern about over-extension and the continued ability to operate in difficult settings after programmes end. Providing certainty about scale-up or phase-out plans and designing subsidies to include companies that are already serving these communities, often smaller and locally or refugee-owned, are two key steps for catalysing greater private sector participation over the long term.

- **Build humanitarian and displacement settings into nationwide subsidy programmes and national energy planning.** This will ensure that adequate resources are available to develop sustainable market ecosystems that serve hard-to-reach host and displaced communities. For this approach to succeed, though, governments must develop inclusive policies that support displaced people's integration into society. Over time, this approach can reduce humanitarian dependency, enable displaced people's meaningful economic participation, and allow them to live good and dignified lives in displacement.

- **Continue producing knowledge on the most effective subsidy approaches for reaching humanitarian and displacement settings – including by conducting independent evaluations.** More research is needed to develop a robust set of best practices for designing subsidies that are effective in developing markets in hard-to-reach communities. It is crucial for research that informs future programmes to incorporate a wider range of perspectives beyond those of donors and implementers. Lessons and practical tips from companies, communities, and government partners are also key.

# 01

# INTRODUCTION

In Niger, careful data collection enables smooth verification and coordination between stakeholders.

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# INTRODUCTION

**Access to clean energy is critical for reducing vulnerability, enabling resilience, and supporting inclusive development, including for communities affected by conflict, disaster, and displacement.** In the immediate wake of a humanitarian emergency, basic energy access, through items such as solar lanterns and charging sources, plays a crucial role in enhancing people's safety, access to information, and ability to communicate (Thomas et al. 2021). Reliable electricity supply is also essential for humanitarian agencies, NGOs, businesses, and community organisations to effectively respond to a crisis. In protracted emergency and displacement settings, energy access is crucial for not only basic protection, but also enhancing community resilience and self-reliance. It is necessary for improving the quality of education, healthcare, and livelihood opportunities to which people have access.

**In the coming years, more communities will be living in fragile, conflict-affected, and vulnerable settings, and a growing number of people will be affected by displacement.** As of 2025, there were over 300 million people relying on humanitarian aid and over 120 million had been forcibly displaced by conflict and crisis (UN OCHA 2024). As climate change worsens, the frequency and severity of climate shocks and related disasters is only expected to increase. Growing environmental pressures are driving volatility and conflict. It is imperative to develop effective approaches now for delivering long-term, reliable, and affordable energy access in these settings, in line with Sustainable Development Goal (SDG) 7. Access to Clean and Affordable Energy for All – by 2030.

# 01

## ENERGY ACCESS LEVELS IN HUMANITARIAN SETTINGS TODAY

**An analysis by the Global Platform for Action on Sustainable Energy in Displacement Settings (GPA) found that an estimated 40 million forcibly displaced people lack access to electricity today while nearly 50 million rely on traditional cooking fuels,** which have significant negative environmental and health impacts. Most displaced people without access are living in low and middle-income countries which have significant national energy access gaps, and many of which are impacted by fragility, conflict, and climate vulnerability. Within these countries, displaced people without access are most often hosted in hard-to-reach settings where limited infrastructure, weak market links, and high operational costs make service delivery far more difficult than in urban or peri-urban settings. Low and irregular incomes further constrain affordability and demand for quality energy products.

**Displaced people can also face specific barriers to energy access that host community members living in hard-to-reach settings do not.** These can include language, cultural, and legal challenges that limit freedom of movement and economic opportunity. Legal and regulatory restrictions on movement, entrepreneurship, financial inclusion, or land tenure reduce both household purchasing power and private sector incentives to operate. The perceived temporariness of many displacement settings—despite frequently being long-term—also discourages infrastructure investment and durable market models, reinforcing reliance on short-term or narrow-market solutions (Bisaga 2025).

**The energy access deficit for forcibly displaced people is most severe among refugees living in camp settings, with 94% lacking electricity and 81% lacking access to clean cooking sources (GPA 2022).** The limited energy products and services to which camp communities have access are primarily delivered by humanitarian partners with rapidly shrinking financial resources. Drastic funding cuts in the humanitarian sector have only increased the necessity to find solutions which enable displaced people to be self-reliant and to integrate them into the social protection systems, economies, and markets of host communities and countries.

# 02

# SUBSIDIES AS A TOOL FOR ACHIEVING SDG 7

**Well-targeted subsidies, coupled with other public financing mechanisms and enabling environment improvements, can foster larger, more competitive, and more inclusive national energy markets** (ESMAP 2022). Demand-side, or end-user, subsidies can directly lower the cost of energy products and services, rendering them affordable for poorer households. On the other hand, supply-side subsidies provide financial incentives to producers or suppliers to reduce costs and encourage innovation and expansion into new, harder-to-reach markets. Public financing mechanisms, such as concessional consumer finance, up-front and technical assistance, and risk mitigation instruments and credit lines for local financial institutions, can support affordability for customers, facilitate companies' access to working capital and streamlining of operations, and enable the gradual reduction of subsidies over time as the market ecosystem develops. Improvements to the enabling environment, from tax exemptions for off-grid solar products and clean cooking solutions to transport infrastructure investments, are also crucial for robust and inclusive market development.

**Already subsidies, especially those delivered through results-based financing (RBF), have proven to be highly effective for closing the affordability gap and incentivising markets to serve vulnerable and hard-to-reach communities.** For example, the Global Distributors Collective found that among its membership of last-mile distributors (LMDs), 44% of which serve displacement settings, sales to vulnerable customers were higher among those which have successfully accessed RBF (GDC 2025). Among 144 companies surveyed, those accessing RBF reported that 82% of their customers are below the poverty line and 79% live in rural areas, compared to 50% and 61%, respectively, for those without access to these subsidy programmes.

**Inclusive policies for displaced people are also essential to maximise the benefit of subsidies to unlock market-based energy access for these communities.** Such policies include freedom of movement and the right to work for refugees, the integration of displaced people into national energy planning and development strategies, and permission for companies to operate within camps and settlements, among others (Hangi 2025).

**As RBF has gained traction, substantial research has also supported the gradual emergence of best practices for design and implementation.** To date, over $2.6 billion has been invested in energy access-related RBF programmes alone in 20 countries (SEforALL 2025). Significantly more has likely been spent on other types of demand and supply-side subsidies. The End User Subsidy Lab and its individual members (EUS Lab 2025), SNV (SNV and Sunfunder 2021; SNV 2024), Modern Energy Cooking Services (CCA and MECS 2022), Energy4Impact (Energy4Impact and MECS 2021), and others (Perros and Bergman 2025; Pengwern Associates 2025; Stritzke et al. 2021; Perera et al. 2020) have made progress in documenting the learnings from different subsidy programmes and helping partners refine their approach.

Basic solar packages support household lighting and charging.

# 03

# THE SUBSIDY DESIGN CHALLENGE IN HUMANITARIAN & DISPLACEMENT SETTINGS

**Communities affected by humanitarian emergencies and protracted displacement settings can benefit significantly from energy access subsidy programmes.** In the wake of conflict and crisis, subsidies can be deployed not only to grow energy markets but also to preserve market health and customer access in the face of shocks. Well-designed subsidies and technical assistance can incentivise companies to continue supplying displaced communities with reliable energy supply, improving safety and boosting resilience during an emergency. But effectively deploying subsidies for these purposes requires a strong understanding of how crises disrupt markets and the support companies need to operate in settings that are not business as usual.

**To reach people living in protracted displacement and camp settings, important factors must be considered during design and implementation beyond those relevant to other fragile and hard-to-reach settings.** In particular, these communities are often served by parallel systems operated by humanitarian partners and national counterparts for humanitarian affairs. Displaced people are typically more mobile than citizens, as there is always a potential they may return home or move to another location. Refugees, in particular, are often subject to different legal requirements regarding freedom of movement, right to work, and the services for which they are eligible. It is also essential when working with displaced people to ensure fairness and equality in relation to host communities. Such factors can impact every stage of a programme from the setting of subsidy levels to the design of technical assistance packages to the verification standards established for RBF.

**While subsidies have already been widely deployed as a tool for delivering energy access in these settings, little effort has been made to understand and communicate the learnings from these programmes**. A subsidy mapping exercise conducted for this report among the GPA and EUS Lab's network of partners identified 33 programmes implemented across over 15 countries either specifically designed to target humanitarian and displacement settings, or inclusive of displaced people under larger national and regional subsidy programmes. Yet public information on how these programmes were designed and how they have worked in practice is scant. This report takes an initial step toward closing this gap in the literature and identifying what subsidy programme design choices are most effective for overcoming the challenges associated with extending energy markets to conflict, crisis, and displacement-affected settings.

# 04
# METHODOLOGY & LIMITATIONS

**This report presents five case studies of RBF programmes implemented across five countries in sub-Saharan Africa, consolidating detailed information about several large-scale and long-running initiatives, and showcasing the insights of practitioners with extensive field experience.** The GPA and EUS Lab conducted an initial mapping exercise among their network of partners to identify subsidy programmes which have either intentionally included or specifically targeted humanitarian and displacement settings. Findings from this mapping exercise are summarised in the table in the Annex (see page 64). From the programmes identified, five were selected for the in-depth case studies based on partners' interest and capacity to participate. Only programmes at a sufficiently advanced stage of implementation to have meaningful learnings to report were considered.

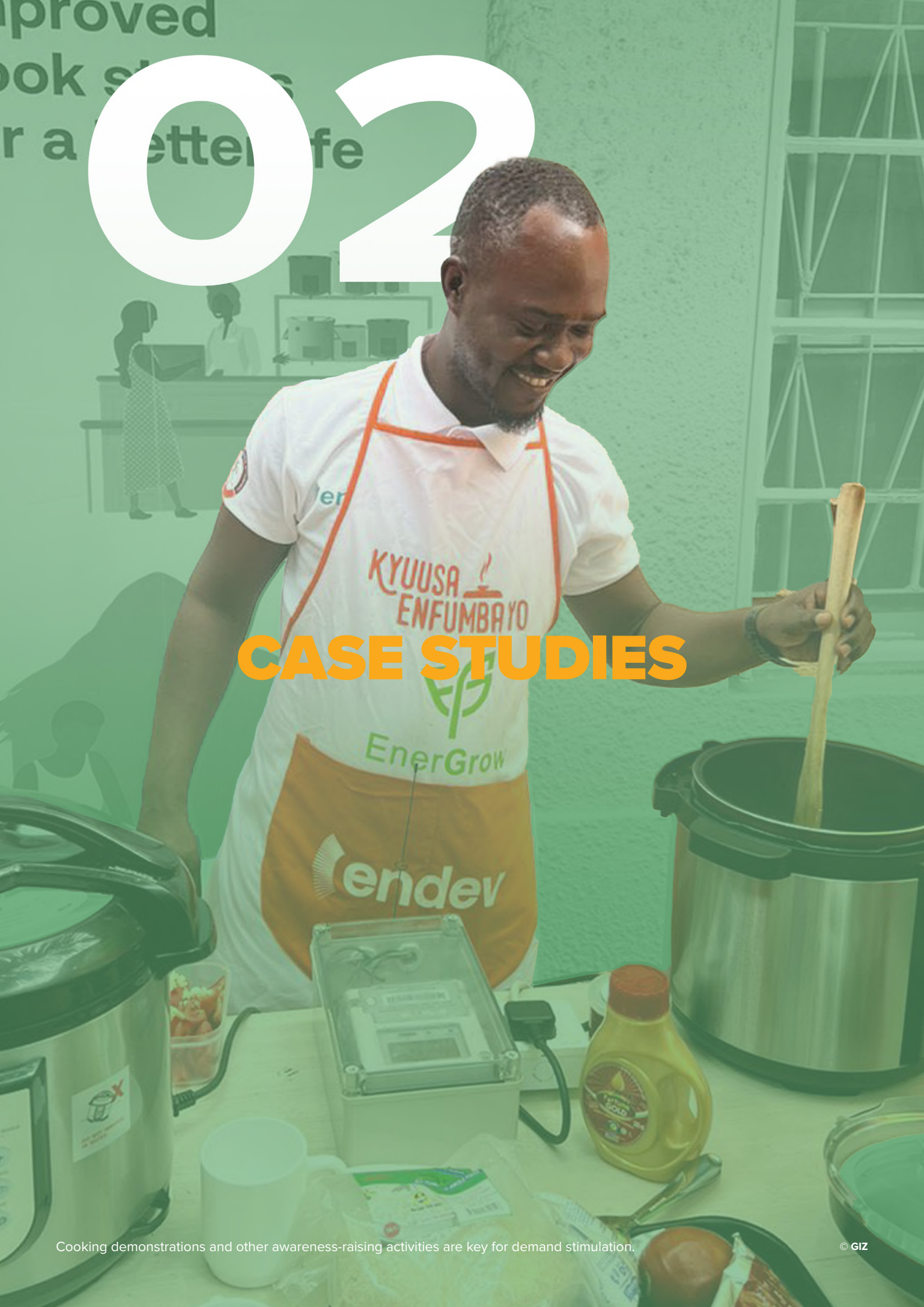
**An effort was made to select programmes applying subsidies in a diverse range of humanitarian contexts.** The selected programmes employ subsidies to increase energy access not only in stable and protracted displacement settings but also in active disaster and emergency settings. Contexts characterised by ongoing conflict-related displacement and security challenges are also included. Country contexts with differing policy approaches to refugee inclusion were also chosen. Efforts were made to include programmes expanding access to a wide range of clean cooking, electricity, and productive use technologies.

**A mixed-methods approach was employed to prepare the case studies, with a key focus on gathering primary data from programme implementers.** First, a desk review was conducted of the available literature on best practices in subsidy design and implementation as well as the limited existing documentation of subsidies in displacement settings. Any information already publicly available about the selected programmes was reviewed. At least one interview per case study was conducted with practitioners working with the implementing agency for each programme. This was supplemented with a review of internal documents and clarification of points via email exchanges. All case studies underwent a round of peer review by practitioners with experience in subsidy design and energy project implementation in humanitarian settings.

**While this report provides a valuable initial contribution on subsidy design in humanitarian and displacement settings, it relies heavily on inputs from a single stakeholder category – a limitation common to subsidy research in general.** As has been documented elsewhere, few independent evaluations of subsidy programmes are publicly available (Perros and Bergman 2025). Most available information comes from reports written by donors and market institutions, leading to a dominance of these voices in the conversation on subsidy design and implementation. Subsequent research on subsidy programmes in both the broader energy access space and in humanitarian energy contexts must capture the perspective of a wider range of stakeholders, including companies, communities, and policymakers. More independent research is required to better understand whether and how subsidy programmes are functioning, and to sharpen the understanding of best practices for using this tool.

# 02

# CASE STUDIES




Cooking demonstrations and other awareness-raising activities are key for demand stimulation.

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# Case Studies

Each of the five subsidy programmes selected has been tailored to the country and local context in question, offering unique insights on how subsidies can be effectively deployed to deliver energy access in both humanitarian emergencies and protracted displacement settings. A summary of the main features of each programme is provided below:

| Programme Name | Country | Lead Implementer | Programme Overview | Humanitarian Context |
|---|---|---|---|---|
| **Electricity Access Scale-Up Project** | **Uganda** | Uganda Energy Credit Capitalisation Company | Nationwide demand-side subsidy rogramme with supply-side incentives for sales in refugee-hosting districts. | The programme aims to include refugees in Uganda's long-term energy planning in line with the country's ambitious policies for integration. |
| **Demand-Side Subsidy Component** | **Uganda, Niger** | Energising Development (GIZ and RVO) | Demand-side subsidies targeted to refugee-hosting districts and other vulnerable areas with high levels of energy poverty. | The Uganda programme targets relatively stable protracted displacement contexts, while the Niger programme has been designed in the context of ongoing conflict and security challenges. |
| **FASER Results-Based Financing Programme** | **Mozambique** | Energising Development (GIZ and RVO) | Nationwide multi-window supply-side subsidy programme. Demand-side subsidies and specific incentives to serve internally displaced people (IDPs) included in windows depending on targeted impacts. | Subsidies are used to incentivise continued energy market functioning following disasters and other emergencies. They are also used to promote long-term energy access among IDPs and other vulnerable households living in protracted displacement. |
| **Results-Based Financing for Refugees** | **Rwanda** | Practical Action | Demand-side subsidy targeting vulnerable households in refugee camps and host communities. | The programme builds on longer-running efforts in a context where refugees are not included in national energy subsidy schemes. It aims to build and sustain a market of higher-tier cooking solutions, reaching all refugee households, including the most vulnerable. |
| **Enter Energy Somalia Productive Use of Energy Programme** | **Somalia** | Mercy Corps | Demand-side subsidies for displaced business owners to purchase appliances and de-risk local bank loans. | Subsidy programme aimed at increasing demand for mini-grid extension, promoting financial inclusion, and generating livelihoods as part of larger effort to establish a permanent settlement for IDPs. |

Common themes and lessons learned from each case study are unpacked in Section 3, aiming to identify emerging best practice for designing and implementing subsidy programmes that respond to humanitarian emergencies and include displaced communities. Section 4 concludes with a series of recommendations for donors, humanitarian and development organisations, government partners, and private companies on the design and implementation of effective subsidy approaches in these contexts. The recommendations recognise that the present report is only a first step in developing a set of best practices, and the need for further research is also emphasised. The report also calls upon partners to work together to incorporate approaches targeting displaced communities into larger national-level and international energy access subsidy schemes, with the aim of ensuring that the market continues to serve these communities over the long term.

It is important to offer products that meet displaced customers' needs and preferences.

Case Study 1:

# THE ELECTRICITY ACCESS SCALE-UP PROJECT

*The UECCC-led RBF programme under the Electricity Access Scale-Up Project in Uganda demonstrates that including refugees in national energy access initiatives provides important opportunities for sustaining markets in displacement settings, but tailored incentives and support to companies are needed to ensure this outcome.*

***Box 1*** **Key Information**

| | |
|---|---|
| **Subsidy Type** | Demand-side subsidy disbursed via companies using an RBF mechanism |
| **Eligible Technologies** | Solar lanterns, Tier 1 and 2 SHS, clean cooking (LPG, ICS, EPCs, induction, ethanol), and PUE appliances (solar water pumps, solar and on-grid refrigerators, solar and on-grid grain milling machines, solar water heaters) |
| **Timeline** | 2022 – 2027 |
| **Total Funding** | Up to USD 135 million[1] (including RBF, TA, and credit support facility) |

***Box 2*** **Programme Stakeholders**

| | |
|---|---|
| **Funding** | World Bank (via Electricity Access Scale-Up Project), through Ministry of Finance, Planning and Economic Development |
| **Implementing Partner** | Uganda Energy Credit Capitalisation Company |
| **Supporting Partners** | Ministry of Energy and Mineral Development |
| **Fund Manager** | Uganda Energy Credit Capitalisation Company |

***Box 3*** **Programme Components**

| | |
|---|---|
| **Demand-Side RBF Subsidy** | Reduces price of eligible off-grid solar, clean cooking, and PUE products for end-users. |
| **Refugee-Hosting District Supply-Side Bonus** | Extra payment per verified sale in refugee-hosting districts (higher for hard-to-reach areas). |
| **Credit Support Facility** | Concessional credit lines to banks/microfinance institutions (≤6% interest) who on-lend to energy companies (≤15% interest). |
| **Technical Assistance & Digital Measuring, Reporting and Verification (dMRV)** | Company-specific technical assistance + Prospect dMRV system for sales reporting, claim submission, and tracking. |

1. UECCC budget is USD 110 million with an additional USD 25 million funding for risk guarantees making up the total of USD 135 million. Component 3.2 is allocated USD 27 million earmarked for RHDs, inclusive of public institutions, which take up to USD 16.5 million, and technical assistance, beyond Component 3.2.

# 01

# Programme Background & Rationale

The Uganda Energy Credit Capitalisation Company (UECCC) RBF scheme plays a central role in expanding access to clean energy across Uganda, including in refugee-hosting districts (RHDs) and other underserved areas. A part of the World Bank-financed Electricity Access Scale-Up Project (EASP), the RBF scheme is structured to incentivise energy service companies to deliver off-grid solar, clean cooking, and productive use of energy (PUE) solutions to households and businesses across Uganda, especially in last-mile communities. Recognising the challenges of displacement settings—such as limited infrastructure, mobility of populations, and lower purchasing power—the scheme includes dedicated incentives and support to companies choosing a business strategy which aims to extend the market to refugee and host community households in RHDs.

The UECCC subsidy under the EASP supports Uganda's progressive refugee inclusion agenda by aligning with national policies that promote self-reliance and equitable service delivery. As a key instrument under the Sustainable Energy Response Plan, it expands access to modern energy for both refugees and host communities, in line with Uganda's commitment to the Comprehensive Refugee Response Framework and the Settlement Transformative Agenda. By focusing on RHDs, it also advances the goals of the National Development Plan III, which prioritises inclusive infrastructure and livelihoods in displacement-affected regions. In addition, the subsidy contributes to national climate and energy priorities, supporting the Energy Policy 2023 and Uganda's updated Nationally Determined Contributions, both of which highlight clean cooking and off-grid energy access as central to sustainable development and emissions reduction. Through this alignment, the programme reduces barriers for energy companies and ensures that displaced households are integrated into national clean energy transitions, advancing Uganda's commitments to refugee protection, sustainable growth, and climate action.

# 02

# Subsidy Design & Delivery

The UECCC-managed RBF scheme provides demand-side subsidies through pre-qualified energy companies to accelerate access to modern energy solutions across Uganda. Each product category has a defined range of subsidy percentages and caps which vary depending on the technology in question. For example, among clean cooking technologies, electric pressure cookers (EPCs) are eligible for a 50% subsidy with a cap of UGX 150,000 (~USD 41), while solar PV e-cookers can be sold at a 30% subsidy with a maximum price cap of UGX 600,000 (~USD 165). There are no binding geographic sales targets included in the programme, though there are soft targets for RHDs. For sales made in those districts (considered harder to reach that other rural or urban areas), companies are eligible to receive an additional payment per unit sold. This bonus is paid to the company to help cover operating costs, but it cannot be passed on to customers as a price reduction. A higher payment is offered for sales in the hardest-to-reach RHDs, and a lower payment is offered for sales in RHDs located closer to urban centres. The same incentive is paid for sales to any RHD resident, whether a refugee or host community member.

# Table 1: Subsidy Structures by Technology Type

| | Demand-Side Subsidy Range | Price Cap | Refugee-Hosting District Supply-Side Bonus (Per Unit Sold) |
|---|---|---|---|
| **Clean Cooking** | 30% – 50% | UGX 30,000 – UGX 870,000 *(~USD 8 – USD 239)* | UGX 10,000 – UGX 13,000 *(~USD 2.75 – USD 3.50) (biomass technologies)*<br><br>UGX 19,000 – UGX 29,000 *(~USD 5.20 - USD 8) (non-biomass technologies)* |
| **Off-Grid Solar** | 50% – 60% | UGX 100,000 – UGX 275,000 *(~USD 27 – USD 75)* | UGX 10,000 – UGX 16,000 *(~USD 2.75 - USD 4.40)* |
| **PUE Appliances** | 60% | UGX 3 million – UGX 5 million *(~USD 824 – USD 1,373)* | UGX 103,000 – UGX 203,000 *(~USD 28 – USD 56)*<br><br>Additional UGX 50,000 *(~USD 13)* for sales to women-led businesses. |

The targeted incentives for RHDs were designed up front in the Project Operations Manual, based on baseline data from national household surveys and previous programmes' sales, which showed that sales in RHDs were consistently below target due to low awareness, low ability to pay, and limited presence of energy companies. Market activation and awareness-raising campaigns in refugee settlements, such as Nakivale, and RHDs in West Nile, have supported demand creation. As EASP has progressed, UECCC and its partners have also begun including within the tailored technical assistance package specific training and support to companies interested in working in RHDs. This includes support to engage with local leaders and vendors. The Office of the Prime Minister (OPM), which oversees refugee operations at the settlement level in Uganda, and UECCC also assist companies in obtaining the necessary permissions to sell within the settlements. For example, they provide energy companies with a pre-approved endorsement letter from OPM that enables them to operate in settlements without delay. Each energy company attaches its product details to this signed template letter, allowing companies, agents, and vendors to move ahead quickly with minimal administrative barriers. However, no infrastructure support is provided to access settlements, such as transportation or designated sales spaces, which can pose accessibility and operational limitations to interested companies, depending on their capacity.

In terms of ecosystem strengthening, UECCC offers tailored technical assistance to energy companies based on individual business needs, including policy compliance, human resources systems, and financial planning. Energy companies also have the option to seek support from a UECCC-appointed consultant to meet the environmental and social compliance conditions of the grant agreements, focused on gender inclusivity and the hiring of local employees where viable. To further strengthen the enabling environment, UECCC is also supporting the stove certification ecosystem by investing in domestic testing capacity. This support aims to reduce companies' reliance on external facilities to obtain the product certification needed to qualify for the RBF. The Centre for Research in Energy and Energy Conservation, Center for Integrated Research and Community Development Uganda, and Nabyeya labs have been profiled for technical assistance.

# 2.1

## IMPLEMENTATION AND VERIFICATION PROCESS

The implementation of the UECCC-managed RBF scheme begins with a public expression of interest advertised in national media. Eligible energy companies submit proposals detailing their company profiles, business plans, and certified product documentation—primarily from the Uganda National Bureau of Standards or other globally recognised certification bodies. Following technical and financial review by a dedicated committee, proposals are forwarded to the World Bank for a no-objection and then to Uganda's Solicitor General for contractual vetting. Once approved, grant agreements are signed by UECCC and the energy companies, with specific RBF allocations based on companies' capacity, capital outflows, and previous track record. Grant agreements for the project to date have not included allocations tied to specific geographic areas.

After onboarding, energy companies begin reporting sales through the Prospect digital platform. Each sale includes essential information: customer ID card (national or refugee), product serial number, location, sale price, and accompanying documentation, such as invoices. Once a sales threshold is reached, companies submit a claim for disbursement. The Prospect platform automatically locks sales entries upon submission, ensuring they cannot be altered or duplicated.

Verification follows a tiered approach. For clean cooking and off-grid solar, an independent verification agency conducts 100% desk verification and a 5% random sample phone-based verification of reported sales. For PUE appliances, which are higher-value and context-specific, on-site physical verification is mandatory to confirm that the product is installed and being used as declared (e.g., a refrigerator used for a small business, not for personal use).

Rejected claims are returned with the option to be corrected and re-submitted, ensuring flexibility while maintaining rigour. Once verification is complete, and the claim approved by the UECCC managing director and the World Bank, payments are electronically transferred to the energy company's bank account.

UECCC and platform developer Access to Energy Institute (A2EI) oversee the Prospect platform together. Prospect aggregates sales and disbursement information but does not determine payments, which are processed manually based on company claims. The Prospect platform has proven instrumental in tracking disbursement progress, generating geospatial maps of sales activities, and ensuring transparency. When an energy company reaches 95% of its initial grant allocation, it is required to apply for additional funds—enabling UECCC to reassess targets and market coverage. This approach ensures not only accountability, but also continuous programme adaptation based on real-time data.

# 03

## IMPACT

The UECCC-managed RBF programme kicked off on 1 November 2024 and reached the mid-term for the project cycle on 31 August 2025. To date, sales under the off-grid solar category have exceeded expectations, with the World Bank considering additional funding. Sales which have been verified to date are included in the table below. Both nationwide and within refugee settlements, off-grid solar is the best performing category, while clean cooking and PUE sales have been slower, according to sales data logged in Prospect. Lower sales of clean cooking appliances to date are in part a reflection of the slower rollout of this component, due to challenges around stove quality.

### Table 2: Verified (and Paid) Sales in RHDs and to Refugees as of 31 October 2025

| | Nationwide | In RHDs | To Host Community Members | To Refugees |
|---|---|---|---|---|
| **Off-Grid Solar** | 245,808 | 27,216 | 19,382 | 7,833 |
| **Clean Cooking** | 73,386 | 7,223 | 6,943 | 280 |
| **PUE** | 500 | 174 | 153 | 21 |

**Note:**
Sales "To Refugees" are based on customers' use of a refugee ID at time of purchase. It is not uncommon in Uganda for refugees to leave the settlement where they are living and resettle in other areas of the country without changing their official district of residence. As a result, sales "To Refugees" also encompasses sales made to those living outside of settlements and RHDs.

The data indicates that clean cooking and PUE sales under EASP remain low in RHDs relative to the soft targets set for these areas. As a result, UECCC is planning measures to boost uptake, including clean cooking demonstration sites and dedicated awareness raising among the communities.

### Table 3: Overall Sales Targets for EASP RBF by 30 June 2027

| | Overall | In Refugee-Hosting Districts | In Refugee Settlements |
|---|---|---|---|
| **Off-Grid Solar** | 142,000 | 27,000 | 13,500 |
| **Clean Cooking** | 353,000 | 53,000 | 26,500 |
| **PUE** | 9,000 | 5,000 | 2,500 |

So far under EASP, most of the 20 companies operating in RHDs (out of the total of 92 approved nationally) are those which were already established in these locations prior to programme launch. While the current sales incentives help existing companies offset labour and logistics costs, they appear insufficient to motivate others to enter or invest in setting up new hubs. Additional incentives, such as provision of advanced RBF payments to serve as upfront working capital for companies expanding into RHDs, or assurances of sustained support beyond 2027, could help derisk expansion for new entrants, but they go beyond the incentives currently offered

# 04

## SCALING

In the future, EASP will likely be succeeded by another similar project addressing Uganda's energy access needs, though no final confirmation of the next steps was available as of November 2025. The current RBF programme is designed with built-in feedback loops through regular market assessments, and the mid-term review of the programme took place in October 2025. Alignment on strategies and support to incentivise increased sales to refugees and in RHDs is expected to follow from these discussions. Options under consideration include, for example, the expansion of the type of products offered. A requirement has also been proposed for companies which have already exhausted their RBF allocation in their first grant agreements to make a certain percentage of sales in RHDs under subsequent agreements. Best practice from the EASP RBF will be utilised to inform strategies for any future projects.

***Box 4*** **Cooperation Across Subsidy Programmes in Uganda**

The UECCC RBF complements other subsidy initiatives in Uganda's displacement settings, particularly the Energising Development's (EnDev) Demand-Side Subsidy Component (see page 27), which includes specific targets for RHDs and refugee settlements. From the outset, cross-programme collaboration—through early technical consultations with EnDev and coordination with the Ministry of Energy and Mineral Development, UNHCR, Mercy Corps, and other stakeholders—has aimed to ensure harmonisation of subsidy levels, alignment of eligibility criteria, and coordination of verification systems to prevent duplication and market distortion.

These discussions led UECCC to adjust its initial subsidy caps, especially for clean cooking solutions, to better align with the Demand-Side Subsidy Component and avoid pricing inconsistencies. By aligning programme design and subsidy levels with other actors, UECCC strengthened the enabling environment for private-sector engagement in RHDs and safeguarded market stability while maximising the reach and effectiveness of its subsidy scheme.

The presence of multiple RBF and subsidy programmes in Uganda—both nationally and in refugee settlements—has required careful coordination to avoid overlap. It has also created opportunities for shared learning, pooling of resources, and stronger market outcomes. From the outset, engagement between UECCC and other programmes helped ensure complementarity.

For example, the SUSTAINED programme led by Mercy Corps focuses on enabling private-sector delivery of off-grid solar products in refugee settlements. It helped lay the groundwork for UECCC's RBF rollout in these locations by identifying and strengthening energy companies' willingness to serve displacement-affected populations. The recently launched Phase II of SUSTAINED will incentivise companies to expand to settlements by providing catalytic working capital grants to unlock additional private finance. Similarly, the SunScale project led by Ayuda en Acción has provided last-mile market insights and operational support for companies, some of which later became UECCC subsidy recipients. The Beyond the Grid Fund for Africa (BGFA) has aimed to incentivise private sector companies to provide access to energy through solar home systems (SHS) and mini grids, including

in RHDs. Coordination mechanisms both formal (memoranda of understanding, joint planning) and informal (shared field insights, aligned messaging) have helped reduce, but not fully eliminate, the risk of double-counting of sales among companies participating in the different subsidy programmes. Further strategies are being developed by actors implementing RBFs to address this challenge.

Combined, these efforts have propelled a growing ecosystem approach in Uganda, where complementary RBF mechanisms and technical assistance programmes are being used strategically to build sustainable and energy markets inclusive of humanitarian settings.

# Lessons Learned

## WHAT WORKED

- The Prospect platform has enabled transparent data management across over 90 energy companies. During verification, cross-checking of product serial numbers and unique customer IDs is done to ensure that companies are not double dipping by selling the same product twice. Use of refugee IDs to track sales to refugee households has helped identify the need for additional support to increase sales in RHDs and to these households. The platform has proven to be a strong digital backbone supporting transparent, real-time progress tracking under the subsidy programme while reducing the burden of manual data verification.

- Collaboration and coordination with stakeholders operating other subsidy programmes in Uganda, such as EnDev, Ministry of Energy and Mineral Development, UNHCR, and Mercy Corps has ensured harmonised subsidy levels in RHDs and aligned eligibility criteria, helping reduce market distortion and strengthening the overall enabling environment.

- Coordination with OPM and relevant line ministries has been done effectively through the steering mechanism established for the programme. Support from the mechanism in obtaining permits and introduction letters for companies has enabled smoother and more timely access to refugee settlements.

# CHALLENGES AND BOTTLENECKS

- The technical assistance, awareness-raising support, and sales incentives offered so far under EASP have not been sufficient to drive new companies to expand to RHDs and settlements, and soft sales targets for clean cooking and PUE technologies have not been met. This underscores the need for deeper engagement with energy companies to pinpoint deterrents and design more effective strategies for the next project phase. Partial upfront payments (rather than payments upon verified delivery) could partly help address the challenge of insufficient working capital and further de-risk expansion into harder-to-reach contexts.

- The technical assistance under EASP has had limited effect, partly due to inadequate communication and consultation with companies around what the package would include. UECCC is now working with energy companies to better identify and tailor support needs.

- While the Prospect platform has proven highly effective for managing sales data and verification within the UECCC RBF, differences in partners' data collection approaches and inadequate communication have limited opportunities to cross-check recorded sales to avoid double-counting between different subsidy programmes in Uganda. For example, companies selling under the EnDev Demand-Side Subsidy Component are required to collect data on customer IDs and product type purchased but not the unique product serial number, making it difficult to determine whether the same product has been sold under multiple subsidy programmes. Coordinating on dMRV processes and system sharing among RBF providers could help avoid such shortfalls in the future. UECCC, EnDev and BGFA are already working towards this goal.

Accessing displaced communities requires support from government and humanitarian partners.

Case Study 2:

# DEMAND-SIDE SUBSIDY COMPONENT

*The Demand-Side Subsidy Component in Uganda and Niger illustrates how responsible subsidy design can be leveraged to further national refugee inclusion efforts, including in conflict-affected operating environments.*

***Box 1*** **Key Information**

| | Uganda | Niger |
|---|---|---|
| **Subsidy Type** | Demand-side subsidy disbursed via companies using an RBF mechanism | |
| **Eligible Technologies** | Tier 1 solar products (lanterns and SHS), ICS, higher-tier cookstoves | Tier 1 solar products (lanterns and SHS) |
| **Timeline** | 2022 – 2026 | |
| **Total Funding**[2] | 5.3 million € | 4.1 million € |

***Box 2*** **Programme Stakeholders**

| | Uganda | Niger |
|---|---|---|
| **Funding** | Netherlands Ministry of Foreign Affairs | |
| **Implementing Partners** | Energising Development (global coordination by GIZ and RVO; implementation in both countries by GIZ) | |
| **Supporting Partners** | Ministry of Energy and Mineral Development | Ministère de l'Économie et des Finances |
| **Fund Manger** | Private Sector Foundation Uganda | Mercy Corps Niger |

# 01

## Programme Background & Rationale

EnDev launched the Demand-Side Subsidy (DSS) Component in 2022 with the aim of piloting successful demand-side subsidy designs for (off-grid) energy products that could then be scaled through larger energy access projects. Four countries – Uganda, Niger, Malawi, and

2. Total funding for the DSS Component across all four countries – Malawi, Liberia, Uganda, and Niger – is EUR 20 million.

Liberia – were chosen based on the presence of vulnerable populations with limited or no access to energy, as well as the presence of government and international partners with the capacity and interest to support scale-up.

Uganda and Niger have both established policy goals and roadmaps promoting refugee integration and social cohesion between displaced and host communities. Both countries have policies in place which enable freedom of movement for displaced people. They also permit refugees to work as well as access land for cultivation and other purposes (UNHCR 2023). With the aim of supporting these national efforts, the DSS Component in these two countries was designed to specifically target RHDs alongside other communities with high levels of energy poverty.

# 02

# Subsidy Design & Delivery

Common elements are present in the DSS Component across all selected countries, including a commitment to design subsidies according to customers' ability to pay while minimising market distortions. Kobo Toolbox is also used in all four countries for customer eligibility checks and programme data management. In Uganda and Niger, country teams opted to disburse subsidies by providing RBF to companies to offer a consumer price reduction. Despite differences in average income between host and refugee communities, the same subsidy levels have been applied for both to cultivate a sense of fairness and promote social cohesion. At the same time, different choices have been made in each country to reflect the local context, including around how best to include displaced people.

# 2.1

## UGANDA

The DSS Component in Uganda aims to provide up to 170,000 people with energy access. Regarding RHDs, the programme initially focused on those located in Northern Uganda and Kiryandongo in Western Uganda. The scope has since been expanded to the Kyaka II and Rwamwanja refugee settlements also in Western Uganda. Data from Uganda's Poverty Status Report and Multidimensional Poverty Index was used to identify target communities. Assessments of refugees' willingness and ability to pay for energy products previously conducted by EnDev, Mercy Corps, and UNHCR, were used to refine the subsidy levels.

Both electricity access and clean cooking products are eligible for the subsidies, and soft sales targets for refugees and host community members were established for several technologies. Reflecting the higher risk of serving the areas targeted by the DSS Component, and to address working capital needs, companies have the option to request up to 30% of a contract's value as an advanced payment.

## Table 2: Uganda Subsidy Rates and Participating Companies per Technology

| Technology | No. Companies Participating | Sales Target |
|---|---|---|
| **Electricity Access Products** | | |
| **Solar Lanterns** | 2 distributors | 50% to refugees and 50% to host communities |
| **SHS** | 8 distributors | |
| **Clean Cooking Products** | | |
| **Tier 1-2 Biomass ICS[3]** | 7 producers/ distributors | 50% to refugees and 50% to host communities |
| **Tier 3 biomass ICS[4]** | 2 distributors | 20% to refugees and 80% to host communities |
| **EPCs** | 2 distributors | No sales target |
| **Ethanol stoves** | 1 distributor | No sales target |

# 2.1.1

## IMPLEMENTATION AND VERIFICATION PROCESS

The Private Sector Foundation of Uganda (PFSU) leads the tendering and contracting process for the DSS Component in Uganda, with technical support from EnDev.

Given Uganda's relatively mature ecosystem of off-grid solar and clean cooking companies — many of which have already begun venturing into hard-to-reach areas – preference is given to companies with an existing presence in the target communities. Companies are free to choose their own sales and business models. For lower-tier solar and clean cooking products, companies typically sell on a cash basis. For higher-tier products, most offer instalment plans with and without PayGo backing. Some participating companies conduct direct sales while others contract local sales agents, depending on their business model and capacity.

In terms of support engaging with displaced customers, all contracted companies are officially introduced to OPM, which is in charge of refugee operations at the settlement level, before launching sales. EnDev also partly supports companies to transport products to settlements during awareness campaigns and establish sales hubs. Most companies participating in the project also receive training around project communication and capacity building for behavioural change. Some have benefitted from business development and other support activities offered under EnDev's general programming and by PSFU.

For verification, a target was set to complete 90% by phone and 10% via house visits, based on statistical sampling. Furthermore, EnDev Uganda and PFSU conduct market intelligence and monitoring checks to ensure pricing compliance among companies and agents as well as identify possible market distortion.

3. In parallel with the DSS Component, EnDev's cooking team is supporting improvements to Uganda's national testing facilities for locally manufactured improved cookstoves to reduce the need to rely on facilities in neighbouring countries and speed up certification processes in Uganda.

4. An "improved cookstove" (ICS) is defined as a stove that is more efficient and emits fewer pollutants than a traditional three-stone fire. The Multi-Tier Framework (MTF) developed by the World Bank classifies cookstoves by tiers, and most "improved" stoves fall into Tier 2 or 3. Tier 4 indicates a high level of performance in specific indicators like efficiency and emissions (e.g. the MimiMoto stove is a Tier 4 ICS running on biomass pellets).

# 2.2

## NIGER

The DSS Component in Niger aims to reach 35,600 people in non-electrified communities hosting refugees and IDPs.

It is being implemented in the Maradi and Tahoua regions, with an initial community focus on Bagaroua, Bangui, and Guidan-Roumdji. The programme was expanded to four additional communities – Guidan-Sori, Azarori, Sabon Guida, and Chadakori – in 2025 to balance against emerging security challenges. Niger has a nascent off-grid solar market comprised of a few companies with limited capacity and RBF-readiness. The operating environment is also difficult, characterised by political volatility as well as socio-economic and security challenges. Niger is also characterised by limited infrastructure, complex geography, and overall fragility.

In response to these realities, a highly flexible and adaptative design was prioritised to enable a quick response to changing external factors. Two technologies were selected in line with the basic energy needs of targeted households in displacement settings receiving first-time energy access. Challenging environments such as the selected communities are characterised by a high cost per sale and high operational risk. Thus, specific sales targets for displaced customers were avoided to prioritise company financial health and ability to set up sustainable operations in these communities.

### Table 2: Niger Subsidy Rates per Technology

| Technology | Commercial Price | Subsidy Rate | End-User Price After Subsidy |
|---|---|---|---|
| **Solar Lanterns** | F.CFA 28,000 (approx. depending on model) *( ~USD 50)* | 70% | F.CFA 8,500 *(~ USD 15)* |
| **Tier 1 SHS (with 3 Lights, Charging, and Radio)** | F.CFA 83,000 *(~USD 150)* | 82% | F.CFA 15,000 *(~ USD 27)* |

Subsidy levels were determined through combined analysis of household financial and economic indicators gathered via socioeconomic baseline studies as well as sales prices proposed by companies during the tendering process. The baseline studies indicated that displaced people had significantly lower incomes than host community members on average. During the design phase, it was hypothesised that the applied subsidy level for solar lanterns would lead to higher uptake among displaced customers.

While the use of PayGo is permitted in the programme, in practice, companies have not used this tool. The operational costs of collecting monthly payments in remote areas and collecting systems in case of default were deemed too high, with the potential to strain companies' financial and logistical capacity. Instead, companies offer flexible instalment-based payment modalities consisting of a downpayment of around 50% of the post-subsidy system cost, with the remaining 50% to be paid after one or two months. Companies have found that this approach renders higher-tier systems more affordable for customers while keeping default risk manageable.

In Niger, community members gather to learn about the DSS Component.

# 2.2.1

## IMPLEMENTATION AND VERIFICATION PROCESS

Five companies were selected for initial participation in the RBF using a performance-based budget allocation process. Given the nascency of Niger's solar market, EnDev provides intensive technical assistance to strengthen companies' commercial capacities in expanding their last-mile distribution chain, after-sales services, and marketing skills. For example, EnDev provides infrastructure support, such as energy kiosks, to help companies' establish selling points in strategic areas in the targeted communities. It also rents pick-up trucks to facilitate market outreach into very remote areas. With the aim of promoting gender inclusion while mitigating company capacity constraints and security challenges in accessing project areas, EnDev Niger trained members of 17 women's groups and 50 young people in the project communities as sales agents who now work on commission for companies.

Awareness-raising activities are led by EnDev and supported by fund manager Mercy Corps Niger. EnDev provides culturally-appropriate marketing material to companies to help increase community members' knowledge about the programme and promoted products. The programme also implements dedicated and culturally appropriate awareness raising campaigns to further stimulate demand for women-led and displaced households. A grievance mechanism was also established to enable community members to provide 24/7 feedback about the programme.

During the eligibility check and sales process, customers are required to provide documentation of their status as a host community member, refugee, or IDP. Specific documentation is given to refugees and host community members confirming their status. For IDPs, local authorities maintain a roster which EnDev integrates into the eligibility tool integrated into Kobo Toolbox. This tool is regularly updated as displaced people arrive and depart the community. For verification, 70% is to be completed over the phone and 30% through field visits, based on statistical sampling. The programme aims to have verification cycles completed and paid out on a monthly basis to ensure companies have access to working capital.

# 03

## IMPACT

The DSS Component in Uganda and Niger is still under implementation, making it difficult to fully evaluate impacts at present. Initial design and setup in Niger was quick and efficient, particularly given the broader instability and challenging operating environment. Programme delays tied to the 2023 coup d'état, ongoing political and security issues in the country, and a multi-month stock shortage have posed ongoing challenges for implementation. Notably, the introduction of the DSS Component RBF coupled with EnDev's decision to make advanced payments to manufacturers on behalf of companies has been instrumental in eliminating the national stock shortage and stimulating manufacturer interest in Niger. As of November 2025, the volume of systems available in the country was sufficient to meet existing demand and anticipated growth.

A sales representative explains his product.

A total of 7,150 sales had been completed in the DSS Component in Niger as of mid-December 2025, with the vast majority being SHS. Of these sales, 80% were made between August and December 2025. The quick uptake following the resolution of stock issues indicates that product selection, subsidy levels, and awareness-raising activities have also been effective at stimulating demand in target communities.

The DSS Component in Uganda has been in the implementation phase for a longer period. Verification data indicates that companies selling SHS and higher-tier cooking products have been able to meet their sales targets more quickly and easily than those selling lower-tier cooking products. As of end September 2025, sales of 19,399 solar lanterns and SHS had been verified and incentives paid. Slightly more than 50% of these sales were to refugees, in line with the soft targets.

The total number of verified cookstove sales is considerably lower and sales to refugees are below the soft target. Rollout of this component was initially slow due to delays in launching awareness campaigns, the setup of certain aspects of programme administration, and receiving certain approvals from the OPM. It was also necessary to increase subsidy levels to account for higher-than-expected transaction costs. Anticipating that it may be challenging for companies to increase sales to refugees, the programme has planned additional awareness raising campaigns to engage these communities.

# 04

## SCALING

The DSS Component was designed and the countries selected with the understanding that ongoing large-scale energy access programmes funded by the World Bank (EASP in Uganda and Haské in Niger) or other stakeholders could provide a clear pathway to continuation or scale. In both countries, discussions about subsequent phases and potential scaling or exit have been underway from the beginning of the DSS Component, though no final decisions have been made. In both countries, comprehensive evaluations will be conducted to inform next steps.

Preparing companies to remain present in RHDs after the DSS Component ends is also a priority in Uganda and Niger. EnDev teams in both countries have been proactive in helping companies build relationships with relevant authorities and coordinating bodies. This has increased company engagement in shaping the market in hard-to-reach communities and ensuring they have the support needed to continue operating in these contexts. Given the high cost of serving displaced communities and continued low ability to pay of customers, it is likely that ongoing subsidy support will be needed for companies to sustain operations in settlements and other remote and low-income communities in both countries.

***Box 3*** **Other Subsidy Programmes in Uganda and Niger**

In Uganda, many subsidy programmes that target or include refugees are running simultaneously. This includes the electricity and clean cooking access components of the nationwide Electricity Access Scale-Up Project, which also targets refugee hosing districts (see page 34). These two programmes complement each other in many ways, although EnDev's DSS Component has stricter requirements for companies to target sales to refugees, host communities, and communities considered multidimensionally poor and rural. Regular coordination between the programmes, including alignment on aspects of design, implementation, subsidy rates and caps, and data sharing, has been crucial to ensuring complementarity.

Additional demand-side subsidy programmes in Niger are few. EnDev also implements a supply-side RBF programme which covers the sales cost for off-grid solar technologies sold in four target regions. With the World Bank having resumed its activities in Niger and planning to launch soon the RBF component of the Haské programme, activity in the market is expected to increase significantly. Establishing clear communication channels and data-sharing between the programmes will be essential to prevent redundancy and over-subsidisation.

# Lessons Learned

## WHAT WORKED

- In Niger, positive feedback has led EnDev to increase efforts to train women and youth from both displaced and host community households as sales agents and after-sales support. The experience demonstrates that integrating target community members into local energy value chains can be particularly effective in contexts where company capacity is limited and accessing communities can be costly and difficult. The approach also creates livelihood opportunities in fragile contexts and promotes local ownership of the project.

- In Uganda, GIZ and Mercy Corps' long-standing presence in RHDs was crucial for overcoming challenges, building community trust, and supporting companies to navigate legal and regulatory processes around accessing refugee settlements.

- In the five years that EnDev and GIZ have been implementing subsidy programmes in displacement settings, the teams have consistently found that a market-based approach to delivering energy access can be successful, provided that incentives for companies and subsidy levels for refugees are appropriately designed.

- Advance payments are an important risk-mitigation tool in both displacement and conflict-affected contexts. In Uganda, they helped mitigate the financial risk for companies of expanding into higher-cost operating contexts with untested demand. In Niger, advanced payments paid directly to manufacturers enabled companies with limited liquidity to place advance stock orders and circumvent restrictions in the country's banking sector. This approach helped eliminate the overall stock shortage in the market. Stock challenges are also common disruptions to normal market functioning in emergency settings.

## CHALLENGES AND BOTTLENECKS

- RBF payment delays due to slow verification processes are a well-documented challenge, including in the DSS Component. The potential for displaced people to move locations or return home posed additional difficulties and required contingency planning. In Uganda, second-hand "next of kin" verification via neighbours, friends, or family was used. Leveraging phone verification and hiring local or roving enumerators can also mitigate community access challenges in conflict-affected settings, such as Niger.

- There are important parallels between designing subsidies in humanitarian emergency and conflict-affected settings. In both, a high level of flexibility and adaptability is required, as external factors can change the situation from day to day. For example, rapid deterioration of the security situation in a community can depress demand, despite careful assessment and planning. This requires quick reconsideration of project target areas and strategies for helping companies access communities.

- In both Uganda and Niger, low-income displaced customers have demonstrated greater willingness to pay for products which offer multiple energy services besides lighting. This suggests that strategies targeting these customers with low-cost solar lanterns may be ineffective. Rather, it is important to develop appropriate subsidy levels and consumer financing offerings to enable low-income displaced customers to afford the products they prefer.

- Scale-up of the DSS Component into EASP has proven elusive, in part due to the evolution of distinct project structures while the programmes have run in parallel. However, the communication channels between the programmes has ensured learnings from the DSS Component feed into EASP.

After-sales service is essential to building community trust.

Case Study 3:

# FASER RESULTS-BASED FINANCING PROGRAMME

*The Fundo de Acesso Sustentável as Energias Renováveis em Moçambique RBF programme is incentivising the market to reach disaster-affected displaced communities and continue operating during humanitarian emergencies*

***Box 1*** **Key Information**

| | |
|---|---|
| **Subsidy Type** | Demand-side subsidy disbursed via companies via RBF |
| **Eligible Technologies** | Pico solar products, SHS ICS, PUE appliances |
| **Timeline** | 2019 – 2025 (possible extension to 2027) |
| **Total Funding Volume** | EUR 16 million for the RBF facility |

***Box 2*** **Programme Stakeholders**

| | |
|---|---|
| **Funding** | BMZ, Netherlands Ministry of Foreign Affairs, NORAD, SDC, European Union |
| **Implementing Partners** | GIZ, Fundação para o Desenvolvimento da Comunidade |
| **Fund Manger** | Fundação para o Desenvolvimento da Comunidade |

For customers living in temporary shelters, careful solar panel placement can be challenging.

# 01

# Programme Background & Rationale

Less than 50% of Mozambique's population have electricity access and 96% cook with unsustainable and polluting fuels. Access is lowest in rural areas, where low population density and poor infrastructure pose challenges to market development. The Fundo de Acesso Sustentável as Energias Renováveis (FASER) em Moçambique was launched in 2019 as a partnership between Energising Development (EnDev) and local NGO Fundação para o Desenvolvimento da Comunidade (FDC). It aims to close the country's access gap and drive investment in low-carbon energy in line with policies such as Mozambique's Energy Transition Strategy 2023-2050 and Integrated Energy Master Plan 2018-2043.

Many of Mozambique's last-mile communities are also affected by internal displacement, and FASER's inclusion of IDPs and returnees furthers goals outlined in the country's Policy and Strategy for Internal Displacement Management. While conflict drives displacement in northern Mozambique, worsening cyclones and tropical storms periodically displace people across the country. Due to the country's climate vulnerability, increasing energy access has also become a key focus of Mozambique's adaptation and disaster preparedness policies. As the timing of the fund's launch coincided with the arrival of Cyclone Idai and the COVID-19 pandemic, FASER partners have been exploring how to incentivise the market to respond to humanitarian emergencies since its inception.

# 02

# Subsidy Design & Delivery

FASER was conceived as set of independent yet interlinked windows each operating under a unified RBF framework. This design enables FASER to not only support Mozambique's long-term energy planning and development goals but also provide tailored support in response to emergent challenges. In the wake of a crisis or displacement event, FASER's existing programme infrastructure can be mobilised. The results for which incentives are paid can be quickly adjusted, whether in terms of eligible products, incentive levels, targets groups, or delivery strategies, to reflect needs and goals in the situation at hand.

To date, the fund has opened calls for six windows aimed at addressing both chronic and emergent barriers to long-term energy access for vulnerable Mozambicans. While the design of each window varies based on the targeted impact, companies typically receive a supply-side financial incentive per electricity access or clean cooking product unit sold. The subsidy level provided depends on the type of technology, the efficiency level of the stove or lumen hours per SHS, the remoteness of a customer's household, and the household's overall level of vulnerability.

Supply-side subsidies were chosen as the primary approach for FASER because the main barriers to market expansion in hard-to-reach settings in Mozambique relate to company capacity, distribution gaps, and the logistical and financial challenges of reaching the last mile. Selected windows have also permitted companies to pass on subsidies to end users, mainly in the form of payment reductions, where affordability issues have been identified.

# Table 1: FASER Subsidy Windows

| Window | Launch Year | Description |
|---|---|---|
| **Access Window** | 2019 | General window to disseminate improved cook-stoves (ICS) and SHS to households in urban, peri-urban, and rural areas. |
| **PUE Window** | 2019 | Window to disseminate SHS and appliances to rural businesses. |
| **Humanitarian Window** | 2019 | Temporary windows launched in response to emergencies. Deployed twice to date – in response to Cyclone Idai and the COVID-19 pandemic. Included supply-side incentives for sales to households and businesses impacted by the eligible emergency.<br><br>Humanitarian Window 1 covering Cyclone Idai included Humanitarian+ incentive equivalent to 100% of product cost in exchange for providing reduced payment to vulnerable customers. Window 1 also included Resettlement+ incentive for sales made in official resettlement areas in Sofala and Manica provinces. |
| **COVID-Pay Window** | 2020 | Temporary demand-side subsidy to ensure continued access for vulnerable customers and preserving sales for companies during period of economic uncertainty. Companies received funding which could be passed on to customers as price reduction deals (e.g. make 3 months of payments and get 3 months free). |
| **Social Infrastructure Window** | 2021 | Window to support electrification of health facilities nationwide other than in urban Maputo. Solar system cost is 100% subsidised. |
| **LNOB+ Window** | 2024 | Specific incentives provided for selling to households led by women or grandparents, resettled families, IDPs, and host communities. |

The FASER windows which have specifically targeted humanitarian and displacement contexts to date are the Humanitarian and LNOB+ windows. Both were designed using a combination of household surveys, consultations with local authorities, and company feedback. Humanitarian Window 1 and the LNOB+ Window both have a geographic focus. Implemented after Cyclone Idai, Humanitarian Window 1 focused on the most affected provinces, and technologies were required to be GPS-enabled to access the incentives for sales in designated resettlement areas. The LNOB+ Window also targets areas with high concentrations of vulnerable populations, including IDPs and resettled households, and was developed partly based on learnings from Humanitarian Window 1.

In these windows, subsidy levels have been differentiated based on the difficulty of reaching each target group. For hard-to-reach or high-risk groups, such as IDPs and households in resettlement areas, higher top-up incentives are offered to compensate for increased logistical costs and operational risks. For groups in more accessible areas, subsidies are lower.

In addition to financial support, EnDev provides business development services to assist both solar and clean cooking companies in establishing well-structured and functional business models, especially when working with newer businesses.[5] To support companies operating in emergency contexts, EnDev has provided both remote and

5. Participating companies must sell Verasol-certified solar products or stoves certified by an accredited laboratory. For ICS companies lacking the financial resources, EnDev covers testing services from Biomass Energy Certification and Testing Centre (BECT). Supported by EnDev, the centre is Mozambique's only ICS testing laboratory and is situated at the University of Eduardo Mondlane (UEM) in Maputo.

on-site technical training and guidance. Building relationships with local leaders and NGOs active in their service areas has also proven essential for companies' successful operations. These partners provide support with organising awareness-raising sessions, building community trust, and navigating the local landscape during periods of emergency.

# 2.1

## IMPLEMENTATION AND VERIFICATION PROCESS

Open calls for different RBF windows under FASER are announced depending on market needs and the availability of donor funds. FDC signs contracts with the selected companies or consortia of partners.[6] Implementing entities cannot receive grant funding from another source while participating in the RBF programme. Companies can choose their business models, with PayGo having emerged as the most common. Others provide products using an energy-as-a-service model.

Companies submit customer lists to FASER for review, with information on the serial number of the product sold, purchase date, usage, and household vulnerability levels. Vulnerability levels are assessed using data from relevant government sources, the IOM, and other organisations working with IDPs. Verification was handed over from EnDev to an independent verification agent in 2023. Phone verification is conducted with a sample of at least 10% of all customers in a batch, with a further 10% selected for field visits. FDC manages claim submissions and processes payments to companies following satisfactory verification. In response to feedback from companies, FASER adopted flexible verification options in disaster-affected and IDP-hosting areas, including by remotely accessing companies' client management platforms. This adaptation aims to reduce delays and allow companies to reach more affected households.

# 03

## IMPACT

From 2019 until mid-2025, FASER had disbursed EUR 16 million in RBF payments across all windows. Humanitarian Window 1 disbursed EUR 1 million in subsidies and Humanitarian Window 2 disbursed EUR 2.9 million. Through the LNOB+ Window, EUR 1 million in subsidies have been disbursed. With the Humanitarian windows, FASER was able to support companies to continue delivering energy solutions to vulnerable communities without interruption during periods of crisis. Energy access, in turn, increased communities' resilience and ability to respond to these crises themselves. For example, during the COVID-19 pandemic, displaced women in Nampula Province used solar-powered sewing machines procured via FASER-supported companies to produce protective masks.

Over time, the number of companies capable of and interested in participating in FASER across all windows has grown from only a few to over 20, indicating market development. Three companies participated in Humanitarian Window 1 and seven participated in Humanitarian Window 2. In the recent LNOB+ Window, 16 companies participated, suggesting that the market's interest in and capacity to serve humanitarian and displacement settings has also increased over time. Among companies in the market that have not participated in FASER, difficulty meeting minimum requirements, such as demonstrating after-sales service capacity and having access to working capital for purchasing stock, were cited as barriers. Other companies have expressed limited willingness to operate in displacement

6. Consortia can include associations or cooperatives working in partnership with a local or international company.

contexts due to high costs, security risk and logistical and operational challenges.

To date, 1,310 sales to IDPs have been verified across both Humanitarian windows, and no sales to IDPs have yet been verified under the LNOB+ Window. These low numbers are partly due to the lack of systematic tracking of sales to IDP customers in the early stages of the programme. Other factors include challenges in choosing products and subsidy levels that are affordable for IDPs, as well as selected companies struggling with the logistical and financial challenges of serving vulnerable households in remote settings. Weak coordination among humanitarian actors has further constrained market expansion in these areas.

To address these challenges, FASER has already made several adaptations, such as permitting remote verification and increasing incentive levels for companies. The next call for the LNOB+ Window will use a reverse auction mechanism through which companies will bid on the incentive needed to reach displacement settings. Other planned adjustments to improve reach to these groups include additional technical assistance to support companies navigating in challenging and remote displacement settings, and improved IDP-specific tracking data to strengthen monitoring and reporting.

# 04

## SCALING

FASER is expected to continue through 2027. Under this new phase, the LNOB+ Window will disburse over EUR 1 million to companies targeting vulnerable groups, including IDPs and returnees, with the aim of promoting long-term development. Additionally, learnings from this long-running programme have informed the design of other RBF programmes in Mozambique, including the World Bank-funded $26 million Energia+ RBF programme.

***Box 3*** ▶ **Other Subsidy Programmes in Mozambique**

Several other partners are working to expand energy access in Mozambique. The BRILHO programme led by SNV, with funding from the UK and the Swedish International Development Agency, is inclusive of IDPs displaced by conflict in Cabo Delgado in northern Mozambique. In 2021, IOM also cooperated with BRILHO to develop an RBF programme to incentivise companies to reach resettlement sites. BRILHO offered higher incentives to serve resettlement sites under its RBF programme while IOM provided catalytic grants to help solar companies establish a sales presence.

Since 2022, IOM with support from Innovation Norway and NORCAP, has also been implementing a project to develop a participatory and inclusive marketplace for energy access focused on five resettlement areas in Sofala Province. The project includes subsidies to reduce the cost of PUE appliances (solar freezers and irrigation pumps) for IDPs. The World Bank has supplied RBF for energy access via the $26 million Energia+ programme, with further scale-up expected under the Mission 300 programme, though neither programme includes a focus on displacement settings.

FASER regularly coordinates with other active energy programmes in Mozambique, as well as relevant national and local government partners, including the Ministry of Energy and Fundo de Energia, the national energy fund. To support improved transparency around all energy programmes in Mozambique and reduce risk of errors or fraud, FASER has opened access to the database it uses to monitor all technology units disseminated under its RBF programming to other energy access initiatives. Stakeholders are invited to enter data into a shared repository where serial numbers are used to cross-check sales entered by the government, companies, donors, or other partners. The system maintains beneficiary anonymity across programmes to ensure compliance with

data privacy rules, laws, and regulations. Use of the repository enables quick resolution in discrepancies between company-reported sales and government records.

Coordination with other stakeholders working on energy access in Mozambique has also bred new partnerships. For example, EnDev and IOM in 2024 launched a new project supported by Innovation Norway and NORCAP to develop mesh grids in displacement settings, with the aim of enabling households to meet basic energy needs while creating opportunities for income generation and small-scale businesses.

# Lessons Learned

## WHAT WORKED

- FASER's flexible funding and modular window structure have enabled it to respond quickly to humanitarian crises and systemic needs alike. Over time, the programme has built out a well-functioning system for decision-making, contracting, company onboarding, verification, and payments. This system has helped to streamline costs and can be leveraged to quickly implement new RBF terms to respond to emerging challenges and achieve new targets.

- Continuous gathering of data and feedback from companies has been essential, informing timely recalibration of the RBF parameters in changing contexts. This feedback, coupled with built-in flexibility in incentive levels, reporting requirements, and target definitions has made it possible to make evidence-based adaptations to changing market realities. The Introduction of remote verification standards and increased subsidy levels are two major adaptations which have been implemented in response to company feedback.

- Company partnerships with local NGOs and community leaders have been essential for mitigating operational risks in both humanitarian and non-humanitarian settings. Their support has been essential for navigating difficult post-disaster environments, conducting awareness raising activities, and building community trust.

# CHALLENGES AND BOTTLENECKS

- Damaged infrastructure and blocked roads pose significant challenges for distribution in the wake of disasters. FASER responded to this by supporting companies to connect with local partners and adapt their logistics, including use of boats, motorcycles, and temporary distribution hubs. Understandably, companies are rarely equipped to navigate emergency settings, making the provision of additional technical assistance essential.

- Post-disaster contexts also pose challenges for programme data collection, monitoring, and verification that require flexible responses. For example, in the Humanitarian Window 1, field verification had to be suspended at times and replaced by remote monitoring methods. FASER continues to use remote verification standards for IDP-hosting districts to reduce the financial and time costs of this effort for companies.

- Coordination delays frequently pose challenges to RBF programmes. This can be exacerbated in complex humanitarian emergencies, when the need to consult multiple stakeholders – government institutions, NGOs, UN agencies, and private companies – can further slow decision making, approvals, and implementation. Building strong relationships with the key partners and decision-makers in the humanitarian response can mitigate these challenges.

In Mozambique, FASER supports increased access to basic energy services for households.

Case Study 4:

# RESULTS-BASED FINANCING FOR REFUGEES

*Results-Based Financing for Refugees is a top-up to the clean cooking subsidies provided under the Renewable Energy for Refugees programme in Rwanda. It showcases how data and infrastructure put in place through long-running subsidy programmes can pave the way for further targeting of the most vulnerable displaced people.*

***Box 1*** **Key Information**

| | |
|---|---|
| **Subsidy Type** | Demand-side subsidy top-up to RE4R II |
| **Eligible Technologies** | Pellet-fuelled Tier 3 and 4 forced draft and air draft ICS |
| **Targets** | 6,700 vulnerable households for Tier 3 and Tier 4 cooking stoves |
| **Timeline** | 2023 – 2025 |
| **Total Funding Volume** | EUR 551,218 |

***Box 2*** **Programme Stakeholders**

| | |
|---|---|
| **Funding** | Funded by Energising Development (EnDev) as a top-up to the RE4R II programme financed by SIDA |
| **Implementing Partners** | Practical Action Rwanda (also fund manager) |
| **Supporting Partners** | EnDev, UNHCR, Ministry in Charge of Emergency Management, WFP, refugee executive committees, district-level actors |

# 01

# Programme Background

The Results-Based Financing for Refugees (RBF4R) project is a complement to the Swedish International Development Agency-funded Renewable Energy for Refugees Phase II (RE4R II) programme. Implemented in five refugee camps across Rwanda (Nyabiheke, Mahama, Kiziba, Mugombwa, and Kigeme), RBF4R contributes to Rwanda's refugee inclusion agenda by providing an additional subsidy to enable the most vulnerable refugee households to gain access to sustainable energy for cooking. As the main energy access subsidy programmes in the country which target refugees, RE4R II and RBF4R support Rwanda's implementation of the Global Compact on Refugees. The initiatives also align with the goals of Rwanda's National Strategy for Transformation and the Energy Access Quality Improvement Project (EAQIP) under the Rwanda Universal Energy Access Programme, and they advance the country's Nationally Determined Contributions, which prioritise renewable energy and clean cooking as key mitigation measures. Together, RE4R II and the RBF4R project strengthen private sector participation, reduce emissions, improve health, and ensure that refugees are not left behind in Rwanda's clean energy transition.

RE4R II and RBF4R have been running in parallel to the national RBF under the World Bank-funded $150 million Energy Access and Quality Improvement Project (2021 – 2026), and the recently launched $400 million Accelerating Sustainable and Clean Energy Access Transformation (ASCENT) project also funded by the World Bank, which runs to 2029. Both projects drive expanded access for clean cooking and electrification in Rwanda but do not include refugees.

# 02

# Subsidy Design & Delivery

The RBF4R project was designed and implemented through a consultative and inclusive process involving a wide range of stakeholders to ensure appropriate resource allocation, strong collaboration, and equitable access across all refugee camps in Rwanda. Practical Action, together with EnDev, worked in close collaboration with national institutions such as the Ministry in Charge of Emergency Management, UNHCR, and WFP. As part of the energy needs and market assessment conducted during the development phase of the project, extensive consultations were held with operational NGOs such as Alight, Plan International, World Vision, Red Cross, and Save the Children, all of which lead projects supporting delivery of various services for refugees in Rwanda. Camp-level structures, including refugee executive committees and humanitarian coordination platforms, were utilised to directly include refugee communities and their representatives in the design process.

RBF4R provides a results-based top-up subsidy disbursed via clean cooking companies offering Tier 3 and Tier 4 pellet-based stove technologies, with the subsidy covering both stoves and fuel costs. The primary goal of the subsidy design was to reduce the retail cost of higher-tier stoves for the most marginalised refugee households while ensuring the private sector's ability to establish sustainable operations. Companies are eligible for a subsidy of 90% of the cost for forced air draft stoves and 95% for natural air draft stoves, from the combination of subsidies offered under RE4R II, and the EnDev-funded RBF4R.

# Table 1: Stove and Fuel Price Ranges Before and After Subsidy Application

| | Subsidy Applied | Stove Price Range |
|---|---|---|
| **Stove Market Price** | 0% | RWF 38,000 – RWF 105,000<br>*(~USD 25 - USD 70)* |
| **Stove Price with RE4R II Subsidy** | 29%-67% | RWF 12,500 – RWF 75,000<br>*(~USD 10 – USD 50)* |
| **Stove Price with RBF4R Subsidy** | 90-95% | RWF 1,900 – RWF 10,500<br>*(~USD 1 – USD 7)* |
| **Pellet Market Price (per kg)** | 0% | RWF 320 – RWF350<br>*(~USD 0.20 – USD 0.24)* |
| **Pellet Price with RBF4R Subsidy** | 37.5% | RWF 200<br>*(~USD 0.10)* |

**Note:**
Price ranges are based on the cost of five stove models sold by companies participating in RE4R II and RBF4R. Packages generally include the stove, battery, solar panel, and connecting cables (powering the stove's fan).

The RBF4R top-up subsidy aims to further reduce the cost of clean energy technologies for the most marginalised refugee households. Initially, these households were identified using a customised vulnerability-based eligibility framework developed in partnership with EnDev, UNHCR, MINEMA, and camp-level actors. Based on data from the UNHCR ProGres database and validated by community feedback, the tool identified and prioritised households with the highest vulnerability scores—such as people with disabilities, single-parent households, and unaccompanied minors. However, due to low uptake among the initial target group, and in response to demand from other vulnerable households in the camps, eligibility was later expanded to all households falling into Category 1 in the UN food assistance framework which encompasses 20,780 households, or 72.6% of total households across the five camps (UNHCR 2025). The project team also made the decision to allocate up to 10% of stoves sold under RBF4R for vulnerable households that do not fall under Category 1. Selection is done transparently and collaboratively among village leaders, camp refugee executive committees, and Practical Action, with the identified households added manually to the eligibility tool.

Due to the time-consuming and complex nature of signing a data sharing agreement with UNHCR for any project involving refugees, Practical Action and UNHCR developed an alternative solution to carry out the refugee household selection for the RBF scheme. In this system, UNHCR creates unique token numbers, one per each eligible refugee household. Households can then pick up a paper voucher with the code from the UNHCR field office. A list of unique tokens is then uploaded into the eligibility tool and SMS text messages are sent to households to inform them that they are eligible for the RBF subsidy. Each household wanting to benefit from the subsidy must present the token number to the stove seller (e.g. in a shop selling qualified stoves), who then checks eligibility using the RBF4R eligibility framework tool.

In terms of enabling environment support, RBF4R benefits from and builds on awareness-raising campaigns, technical assistance, and market development efforts being implemented under RE4R II. Practical Action provided companies with tailored technical assistance to strengthen operational readiness, including support on logistics, marketing, pricing strategies, and after-sales services. Under RE4R

II, participating companies Ecogreen, MC Green, and Agroplast also received support to set up stove and pellet production units, establish sales points in refugee camps, and build distribution networks across the five camps also included in RBF4R. This support acts as indirect assistance to the companies, helping to de-risk their entry into new hard-to-reach markets.

# 2.1

## IMPLEMENTATION AND VERIFICATION PROCESS

Participating companies were initially contracted under RE4R II and then underwent a stringent due diligence process to be included in RBF4R. Eligibility criteria included compliance with stove technical performance requirements, adequate financial and logistical capacity, and prior experience in humanitarian or last-mile settings. Once selected, the companies entered into formal agreements that specify performance targets, subsidy levels, reporting timelines, claim and verification requirements, and disbursement procedures. It is worth noting that all three contracted companies also have established operations outside of refugee camps in Rwanda.

Subsidy disbursements are linked to actual sales, with claims triggered by data collected via KOBO Toolbox and the RBF4R eligibility tool. While the verification procedures for sales made under RBF4R and RE4R II are separate, both procedures rely on data collected in KOBO Toolbox. Companies must submit full documentation of each sale, including GPS-tagged delivery records, beneficiary details, and signed contracts. Claims are verified by an independent verification agent using statistical sampling, with 60% of verifications completed by phone and 40% via physical field visits. The verification split was chosen with the aim of reducing the cost of this component, as field verification is typically an expensive component of RBF programmes. Claims that fail to meet requirements are either returned for correction or rejected entirely, though up to September 2025 no claim was rejected under RBF4R. Funds are disbursed to companies only after full validation and audit clearance, with donor-side reviews conducted to ensure financial accountability.

# 03

## IMPACT

By mid-2025, the RE4R II project had established functional private sector supply chains in all camps, while RBF4R has expanded market access to Tier 3 and Tier 4 stoves, along with pellet fuel, to the most vulnerable groups. As of September 2025, 1,238 subsidised stoves have been sold under RBF4R, which is below the initial target set at 6,700 households over the total project duration (2023 - 2025). While the RBF4R project has demonstrated strong potential to stimulate clean cooking markets in refugee settings – particularly by ensuring that the most vulnerable households are reached – it has also encountered a number of implementation challenges, presented below, that must be addressed to fully realise its impact.

Additionally, the programme has produced useful information on refugee customer preferences to inform design of future interventions. Anecdotal evidence from field consultations indicates that there is preference for forced draft models (rather than natural draft ones), thanks to their faster cooking times, cleaner operation, and reduced smoke emissions. Feedback collected during camp-level workshops also highlighted a strong appreciation for the reliability and consistency of pellet fuel, especially in camps where firewood collection has become increasingly restricted due to environmental regulations, protection risks, or the depletion the depletion of the local environment of firewood available for collection.

# 04

## SCALING

The decision to build the subsidy programme on the foundational investments of RE4R II, a long-running and larger-scale project aimed at establishing private sector supply chains, production units, and distribution networks in refugee camps in Rwanda, increases the likelihood that vulnerable households will continue to have access to clean cooking markets after the phase-out of RBF4R. Several companies participating in both programmes have indicated plans to continue serving humanitarian markets after phase out and, jointly with other RBF4R partners, the companies are considering ways to secure further funding and financing, including carbon finance.

Based on the findings so far, it is clear that guaranteeing long-term access and impact will require more than short-term incentives. Continued subsidy support, complementary financing mechanisms, and deliberate efforts to reduce end-user costs – through economies of scale, local manufacturing, and supportive policies – will be critical to making clean cooking solutions sustainable and accessible for all refugee households.

# Lessons Learned

## WHAT WORKED

- Use of a participatory methodology for subsidy design, including extensive community engagement around subsidy targeting, built trust in the project's commitment to fairness and accountability among refugees and other stakeholders. Practical Action's coordination with camp-level and national actors created an enabling environment for smooth implementation.

- RBF4R effectively leveraged the investments made in clean cooking companies and remote distribution networks under RE4R II, itself a continuation of RE4R I (2017 – 2022), to further support company scale-up and last-mile market expansion in a way that includes highly vulnerable groups. It provides a useful model which can be adapted in other countries with long-running demand-side subsidy programmes that include displaced people.

- Collaboration between Practical Action, UNHCR, and other stakeholders streamlined processes and strengthened accountability. The jointly developed token-based eligibility system avoided the need for a lengthy data-sharing agreement while maintaining transparency and efficiency.

- Enabling-environment support—especially awareness-raising in camps and tailored technical assistance to companies—effectively stimulated demand and strengthened company readiness to enter the refugee camps.

- Practical Action's support provided to companies has been an important enabler for accessing the refugee camps. This included assistance in navigating permitting processes to access camps and establishing companies' operations. Companies have also expressed that having a partner they can turn to in case of any challenges provides reassurance when navigating refugee camps, which are seen as riskier markets that non-camp settings.

## CHALLENGES AND BOTTLENECKS

- Uptake among the most vulnerable households was initially limited, with additional traction gained after sustained awareness-raising efforts—including weekly community meetings and live cooking demonstrations. Affordability remains a persistent barrier, especially given the declining purchasing power of refugee households due to reductions in cash assistance and broader economic pressures. Despite the targeted subsidy, the retail prices of Tier 3 and 4 stoves continue to exceed what many households can realistically pay, widening the gap between market offerings and household purchasing capacity. These factors have limited the speed and depth of adoption among the most vulnerable households, and the overall targets are expected to only be met at approximately 30% by the end of the project. This challenge highlights the need to explore alternative funding mechanisms, such as carbon finance, as well as possible additional subsidies for the purchase of fuel pellets.
- Quality improvements to stove models have been continually made based on customer feedback and with the aim of increasing the tier of cooking energy service delivered. However, improvements have also been accompanied by price increases, particularly when the use of new imported components is required. This has increased affordability challenges for households.
- Accessing refugee data may be challenging due to sensitivity and data protection standards imposed by humanitarian partners. This should be anticipated during the project design phase. Close coordination with relevant agencies is essential to identify solutions early on.

Case Study 5:

# ENTER ENERGY SOMALIA PRODUCTIVE USE OF ENERGY PROGRAMME

*Leveraging electricity supply from the Baidoa Town solar mini-grid in Somalia, Mercy Corps piloted a subsidy programme to unlock bank financing and PUE for IDP-led businesses in Barwaaqo Settlement.*

***Box 1*** **Key Information**

| | |
|---|---|
| **Subsidy Type** | Demand-side subsidy in form of matching grant + loan |
| **Eligible Technologies** | PUE appliances (refrigerators, freezers, grain mills, ice machines, etc.) |
| **Timeline** | 2024 – 2025 |
| **Total Funding** | GBP 2.5 million for Enter Energy Somalia, of which $400,000 was deployed as PUE grants |

***Box 2*** **Programme Stakeholders**

| | |
|---|---|
| **Funding** | FCDO via the Transforming Energy Access Platform |
| **Implementing Partners** | Mercy Corps, Baidoa Electric Company |
| **Supporting Partners** | Southwest State of Somalia Government / Baidoa District Council, IOM Somalia, IBS Bank, Humanitarian Energy Plc |
| **Fund Manager** | Mercy Corps |

# 01

# Programme Background and Rationale

Baidoa, the largest city in South-West State, Somalia, hosts around 600,000 IDPs displaced by the country's civil wars who have settled in the relative safety of its surroundings over the last decade. With support from the Municipality of Baidoa, a consortium led by IOM Somalia designed and built Barwaaqo IDP Settlement, a permanent home for 3,100 IDP households. In 2023, Mercy Corps partnered with IOM and Power Africa to extend the 10 MW mini-grid serving 20,000 customers in Baidoa to Barwaaqo, in collaboration with the local private independent power producer Baidoa Electric Company (BECO). The new mini-grid power supply also created a strategic opportunity to unlock PUE access and consumer financing for IDP-led businesses in Barwaqqo through a grant-matching programme.

# 02

# Subsidy Design & Delivery

Enter Energy Somalia initially proposed a subsidy structure in which IDP-led businesses could access PUE appliances, such as refrigerators, freezers, and grain mills, by leveraging a 10% downpayment and 40% grant from Mercy Corps to unlock the remaining 50% of the product cost as a loan from local financial partner IBS Bank. However, IBS Bank's assessments of applicants' ability to pay and access credit led to the adoption of a more concessional structure. The downpayment requirement was eliminated and the majority of participating businesses received a 100% subsidy for the appliance purchased

***Table 1.*** **Breakdown of Subsidy Amounts**

| Total Appliance Funding Amount | Subsidy Amount (As % of Appliance Cost) | Number of Businesses Reached |
|---|---|---|
| $2,500 grant | 100% | 131 |
| $2,500 grant + $500 loan | 83% | 7 |
| $2,500 grant + $1,000 loan | 71% | 2 |
| $2,500 grant + $2,500 loan | 50% | 9 |

**Source:** Adapted from Mercy Corps (2025)

Participants were identified through a baseline study of newly connected businesses in Barwaaqo that assessed socioeconomic status, business type, ownership structure, and appliance needs. Awareness raising efforts were then conducted to let businesses know about the opportunity. Mercy Corps completed an initial screening, verification, and registration process for interested businesses to assess owners' aspirations and capacity building needs. Businesses were supported to open a bank account with IBS Bank which then conducted a credit screening and assessed appliance capital requirements to determine the appropriate financing structure for each business.

A total of 18 out of 149 pre-selected businesses accessed loans based on greater ability to pay and higher capital needs for the appliance purchased. All disbursed loans were Sharia compliant with a profit rate of 10% of the equipment investment. The loans had a repayment period of 12 to 24 months with a grace period included, which was suitable for the income flows of the selected businesses. The purchased appliances serve as collateral in case of non-payment, providing additional de-risking for IBS Bank beyond the subsidy from Mercy Corps.

IBS Bank signed contracts with all beneficiaries after funding terms were agreed. Mercy Corps disbursed the subsidy funds to IBS Bank which then made direct payments to selected appliance suppliers. Mercy Corps oversaw the contracting process, monitored equipment distribution for quality control, and gathered feedback from beneficiaries. Livelihood experts embedded in the community conducted ongoing monitoring of appliance use and business performance. Customers received training on use of the purchased equipment as well as tailored business development support. Mercy Corps led additional trainings on community accountability and reporting; gender, equity, and diversity; and the safeguarding procedures and policies for the project.

During the project, Mercy Corps and IBS Bank worked in close partnership to understand beneficiary needs, design appropriate financial products, develop an equipment list of fit-for-purpose appliances, and prepare supply agreement criteria. Suppliers were identified from a list of companies pre-qualified by IBS Bank, and additional due diligence was conducted. High-quality appliances were prioritised to minimise the risk of downtime, which might impact businesses' operations and repayment ability. Mercy Corps and IBS Bank continue to jointly conduct loan performance monitoring.

# 03

# IMPACT

Under the PUE initiative, $400,000 in subsidies were disbursed to 149 businesses, 112 of which were led by women. The tailored subsidy structure unlocked $28,000 in loans from IBS Bank for 18 businesses. All participants were supported in opening a bank account, and loan recipients have been pre-qualified for future loans at the same tenor in case they need additional top-up, creating a new pipeline of IDP-led small business lending customers. The broader Enter Energy Somalia project connected 2,241 households in Barwaaqo to the Baidoa mini-grid, with the remaining 918 connections within Barwaqqo handed over to BECO and the Municipality of Baidoa.

At the time of research, a follow-up assessment of businesses' appliance use, sales and productivity changes, the need for additional top-ups, and other factors had not yet been conducted, making it impossible to determine longer-term impacts of the initiative. A stocktake of ongoing programme impacts to inform next steps is planned for Q1 2026.

A businesswoman in Barwaaqo lights up her shop.

# 04

## SCALING

The Enter Energy mini-grid extension project was formally handed over to BECO and the Municipality of Baidoa at a high-profile "Lights-On Event" held to celebrate initial project progress. Following the conclusion of the PUE pilot, Mercy Corps began fundraising for scaling to the wider customer base of the Baidoa mini-grid. At time of publication, impact assessments and evaluations to inform the provision of ongoing business development support and scaling were still underway.

Mercy Corps is exploring opportunities to scale the partnership model between the NGO, the local government, a local utility and local financial partner in other areas of Somalia. Mercy Corps has also supported BECO to become a registered issuer of Peace Renewable Energy Credits (P-RECs). The NGO is exploring opportunities to scale both its energy infrastructure development and PUE programmes in displacement settings in Somalia and elsewhere through credit sales.

# Lessons Learned

## WHAT WORKED

- The project helped familiarise IBS Bank with the IDP community in Barwaaqo, preparing it for continued engagement in providing financial services to displaced business owners. IBS Bank and the PUE appliance suppliers are also contracted to provide a warranty and after-sales support, ensuring ongoing engagement in the settlement.

- Close partnership with local authorities was essential to successful implementation of not only the Baidoa mini-grid extension but also the PUE subsidy project. Local authorities supported the formalisation of IDP-led businesses, providing waivers to secure speedy registration and necessary legal documents to support them in opening bank accounts.

- Embedding local field teams and engaging business owners from assessment to implementation improved transparency and ensured support was provided based on an understanding of businesses' real needs rather than assumptions.

- Project success also required close work with BECO to balance its commercial needs with the reality of low income levels among business customers in Barwaaqo. Provision of catalytic funding through an RBF scheme for network extension and close collaboration with the utility made it possible to design an affordable tariff structure for IDP-led businesses. Installation of prepaid meters also allows businesses to more easily plan their energy costs.

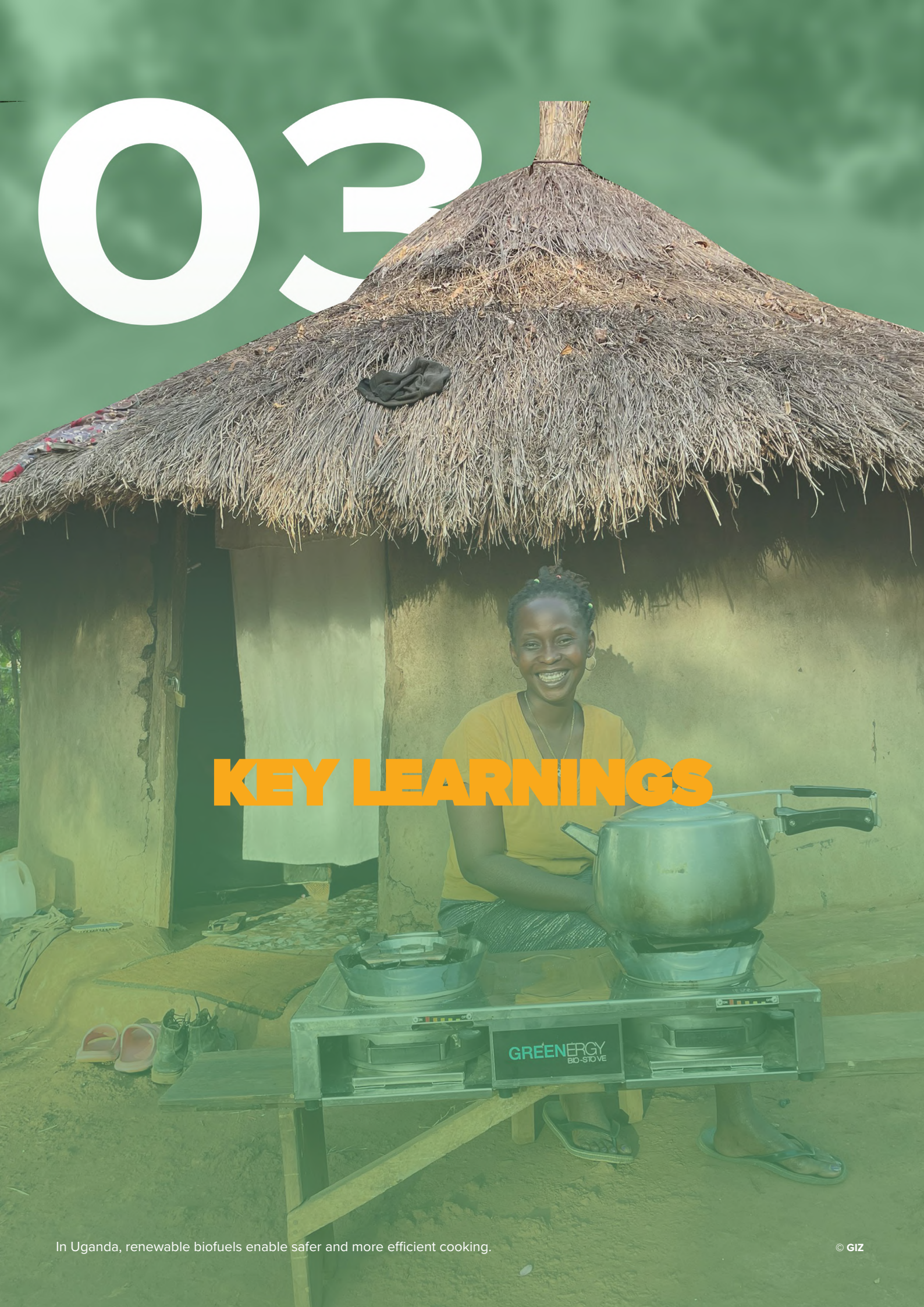
## CHALLENGES AND BOTTLENECKS

- Effective mentorship to foster business growth requires careful planning. Longer implementation timelines and closer collaboration with financial partners to identify business gaps and mentorship needs can contribute to more comprehensive capacity-building packages.

- Displaced business owners, along with other small business owners operating in remote and fragile settings, require flexible financial products adapted to their diverse financial realities and ability to pay. Developing products that align the needs and expectations of both customers and financial service providers can be highly challenging. With PUE-focused subsidy programmes, in particular, where the prospective customer base is typically smaller, there is potential to work with financial partners to tailor subsidy levels and financial packages to businesses' individual capacities to repay and invest.

# 03

# KEY LEARNINGS




In Uganda, renewable biofuels enable safer and more efficient cooking.

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# Key Learnings

The desk research, case study interviews, and conversations with expert practitioners revealed several key learnings on the design and implementation of subsidy programmes in humanitarian and displacement settings. In particular, the research further demonstrates the important role that subsidies can play in delivering crucial energy access for displaced people and engaging market actors in the emergency response.

There is also a clear need to ensure that the unique and powerful impact of subsidies in these hardest-to-reach contexts are captured in impact measurement frameworks and considered when allocating resources to programmes in different countries. Several learnings also illustrate important considerations and best practices for designing, coordinating, and implementing effective subsidy programmes in these settings.

## NEEDS & IMPACT

**Subsidies have proven to be a crucial tool for delivering sustainable energy access in protracted displacement settings.** Experience from both the EnDev DSS Component and Electricity Access Scale-Up in Uganda have demonstrated that when subsidy levels are sufficient to close the affordability gap, refugees are willing and able to pay for high-quality energy products and services. When companies have adequate financial incentives and technical support to mitigate additional costs and risks, they are more likely to venture into harder-to-reach contexts, such as refugee camps, and serve more vulnerable customers. In Somalia, Mercy Corps demonstrated how subsidies can be leveraged to engage local financial institutions in financing PUE and improving livelihoods for displaced entrepreneurs.

**In disaster and conflict-affected humanitarian settings, subsidies can be strategically deployed to help the market weather shocks and engage companies in the emergency response.** In Niger, EnDev is building the technical and financial capacity of companies while also fostering incremental expansion to refugee-hosting areas, despite a highly challenging security and political context. FASER in Mozambique effectively used subsidies to keep markets functioning with less disruption as well as support early recovery and resettlement for people displaced by Cyclone Idai. During the COVID-19 pandemic, FASER deployed supply- and demand-side subsidies to preserve market health and ensure communities would have energy access despite high levels of uncertainty and economic disruption.

**But, the focus on raw numbers for measuring success fails to capture the nuanced benefits of subsidies applied in particularly challenging and volatile contexts.** Sales numbers, first-time access delivered, and scalability are the most common metrics for evaluating the success of subsidy programmes. Yet in humanitarian emergency and displacement settings, sales numbers may be comparatively low and slow to grow. Rapid scale-up of successful approaches may be less feasible than in stable contexts. Drastic funding cuts across the development and humanitarian sectors are forcing partners to make difficult decisions about where to channel resources. At the same time, ambitious new programmes, such as Mission 300, are being launched to make rapid progress on SDG 7 by the approaching 2030 deadline. Both trends will put pressure on implementing partners to maximise new connections per dollar spent, particularly if the results criteria attached to new programmes is simple and does not evaluate the quality of access and holistic impacts of a new connection. This poses a risk that subsidy programmes, which are relatively expensive interventions to implement, will increasingly be used to prioritise easier-to-reach communities.

## DESIGN & SUBSIDY LEVEL SETTING

**Generic energy access subsidies are unlikely to reach humanitarian and displacement settings without intentional targeting.** All of the programmes analysed in this report that succeeded in reaching displaced communities only succeeded by deploying specific incentives and support to achieve this goal. Most programmes also struggled to achieve soft sales targets in displacement settings, and adaptations were needed to mitigate risk, help companies navigate these contexts, and close the affordability gap for low-income customers. This finding reinforces the need to continue developing expertise and communicating learning on the most effective strategies for reaching these communities. National and development partners taking an

inclusive approach to subsidies must make an active effort to identify and incorporate these learnings during programme design to ensure access targets for displaced communities can be achieved.

**However, programmes must preserve fairness between displaced and host communities.** Even in analysed programmes where displaced people had lower incomes than host community members, such as in the communities targeted by the DSS Component in Niger and Uganda, the same subsidy level was set for both groups. This was done with the aim of promoting inclusion and integration in line with country policy goals as well as to avoid tension between communities. It is important that any tailored subsidy levels serve to address affordability gaps for low-income members of groups. Supply-side incentives and support are more appropriate tools for mitigating any additional costs and risks associated with serving displaced communities.

**Programmes must also recognise low-income and displaced people as viable customers.** Initial findings from the DSS Component, as well as inputs from practitioners, indicate that low-income displaced and host community members are more interested in purchasing higher-tier and multi-functional products, even when these purchases may strain their budgets. This suggests that strategies which target these communities with less costly but lower quality products, such as solar lanterns and Tier 1 or 2 ICS, are likely to fail, resulting in low demand. As the Enter Energy Somalia programme demonstrates, it is important to gather data on customer needs and preferences as well as ability to pay. This can then be used to develop tailored subsidy schemes and financing mechanisms that render high-quality products affordable for low-income host and displaced customers alike.

## VERIFICATION CONSIDERATIONS

**Verification challenges specific to humanitarian and displacement settings must be addressed to prevent delays in processing claims and payments.** In particular, displaced customers may be more mobile than host community members, moving between locations or possibly returning to their homes before verification is completed. This issue can be mitigated through the use of secondary sources (such as neighbours and family members) to confirm purchases during field visits. In emergency settings and contexts with security challenges, it may be too costly or dangerous to complete field verification during certain periods. This requires planning for greater reliance on desk and phone-based methods. Taking these issues into consideration from the start can avoid the verification and payment delays which are a well-documented challenge for RBF programmes in all contexts, and that are particularly problematic for small companies with limited financial resources to draw on while waiting for payments.

## PRIVATE SECTOR ENGAGEMENT & RISK MITIGATION

**Financial incentives and technical assistance for companies must address the real and perceived risks of expanding into hard-to-reach settings such as refugee settlements.** These barriers will vary depending on the specific country and local context, with different challenges requiring different responses. In markets such as Niger, nascent companies may need more logistical support to establish operations in remote displaced communities. In any market, companies might require up-front financial support and more certainty about long-term RBF availability to feel comfortable incorporating riskier contexts into their business strategy. Support with developing tailored and culturally appropriate marketing and customer engagement channels is also essential to help stimulate demand. Without efforts to address relevant challenges, in programmes where companies are free to sell nationwide, they are likely to focus on easier operating environments, underperforming soft sales targets in displaced communities. Companies may avoid bidding in targeted RBFs altogether if they feel that pursuing the required results might jeopardise their business health.

**Another key solution is to design programmes which support companies already**

**active in these settings, or near them.** Especially in more mature markets, in countries where refugees have the right to work, and in settings where other similar market-building programmes have previously been implemented, there are companies already serving hard-to-reach displaced communities with energy access products. These companies tend to be smaller and locally or refugee-owned. Their business model prioritises serving their communities, where they have already built brand awareness and trust. Possessing deep knowledge of customers' needs and preferences, they are well positioned to serve these communities at the lowest cost possible. However, such companies typically have trouble accessing RBFs, which often require prior access to working capital and the use of digital monitoring systems that they may not have the financial resources and capacity to incorporate (GDC 2025). Where programmes include credit facilities, lack of collateral may still prohibit these companies from accessing capital. Both national and targeted programmes are likely to reach humanitarian and displacement settings when subsidy levels and supporting measures are calibrated to the realities companies face – ensuring they have the financial, operational, and technical support needed to implement their business models effectively.

## STAKEHOLDER COORDINATION & PROGRAMME HARMONISATION

**Early and frequent engagement between humanitarian, development, and government partners is key to ensuring effective programme design and smooth operations.** Displaced communities are often serviced by parallel systems run by humanitarian agencies and their humanitarian affairs counterparts. Early engagement, including with the communities themselves, is important to identify barriers to displaced people's participation in a programme due to issues such as a lack of formal identification or the need to adhere to strict data protection requirements. Humanitarian partners may have data, links with the community, and access to community knowledge that are important for setting appropriate subsidy levels and designing customer engagement strategies, as can be seen under the RBF4R project in Rwanda. Securing the buy-in of the different partners, and in particular the relevant government bodies, is also essential for ensuring that companies have smooth access to settlements, where applicable.

**Where multiple subsidy programmes are operating, frequent coordination and alignment is key.** As the case studies demonstrate, it is common for multiple subsidy programmes targeting displaced communities to run in parallel with one another and/or with larger national programmes. For example in Uganda, where at least five parallel RBF programmes have been implemented over the last few years, regular meetings between stakeholders have been essential for aligning on the communities served, subsidy levels, and activities to develop the enabling environment. Greater cooperation can create opportunities for partners to pool resources when conducting awareness campaigns, advocacy, and technical and financial capacity-building, among other activities. Coordination on data collection, tools used, and data sharing paves the way for avoiding double dipping by companies and double counting of sales. It also makes it possible to gain a more holistic understanding of the most effective ways to integrate displaced people into national energy markets.

## EXIT STRATEGY & SCALING

**While phase-out must be the long-term goal of all subsidy programmes, programmes in displacement settings realistically require longer timelines to sustain impact.** Short-term RBFs which incentivise expansion into areas where it is not possible to maintain operations after the programme ends harm companies' efforts to achieve sustainable growth and damage community trust. Subsidy pilots and programmes specifically targeting displaced communities tend to have shorter timelines of a few months or years, with continuation dependent on the ability to secure new donor funding in an increasingly competitive fundraising environment. Even well-designed programmes such as the DSS Component and Mercy Corps' Accessing Markets Through Private Sector Enterprises for Refugee Energy (AMPERE) initiative have found that sustaining the market in hard-to-reach displacement contexts takes significant time and resources. Longer-term financial support is needed to develop the market ecosystem in these complex

contexts, conduct community awareness efforts to grow demand, and develop logistics channels and infrastructure to reduce service costs (End User Subsidy Lab 2023).

**Thus, the priority when designing subsidies to reach humanitarian and displacement settings should not be phase out but rather "phase in" to longer-running, large-scale national energy programmes.** This requires careful coordination between humanitarian, development, and government partners to align on data collection and sharing, subsidy levels, and use of existing tools for monitoring and verification. Such alignment can make it easier to streamline programmes running in parallel and later incorporate humanitarian schemes into national ones. National and development partners must incorporate learnings from targeted programmes into their structure to effectively avoid repeating common mistakes that cause subsidies to underperform in hard-to-reach settings hosting displaced populations. Only in situations where the policy environment prohibits national integration should targeted programmes be continued long term. Otherwise, partners should increasingly seek to include humanitarian and displacement settings in large-scale programmes from the start, without the need for initial separate projects.

Customers shop for cookstoves in Uganda.

# 04

# RECOMMENDATIONS

Solar lanterns can be quickly distributed in emergencies but may prove less popular among customers in protracted displacement settings

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# RECOMMENDATIONS

Based on learnings from the research process and the common themes identified among the case studies, a number of recommendations for effective design, implementation, and scaling of subsidy programmes in humanitarian and displacement settings have been identified. The GPA and EUS Lab call for donors, implementing humanitarian and development organisations, government partners, and private companies to take the following actions when designing and implementing subsidies that target or include these communities.

## DONORS

- **Increase the allocation of funding for subsidy programmes in protracted displacement settings, including in highly difficult markets.** This funding should be flexible to enable partners to adapt and innovate within their approach in response to emerging challenges linked to disaster and conflict. It should also be longer term, reflecting that developing sustainable market ecosystems in the most complex settings requires significant time and investment. Companies also require greater certainty of continued funding to justify expansion to harder-to-reach settings.

- **Continue exploring opportunities to deploy subsidies in the emergency response.** Experience from Mozambique demonstrates how subsidies can be used to preserve market health in the face of shocks and enlist market actors in delivering the humanitarian response. A market-based approach to energy access in these contexts can strengthen the early recovery component of emergency response, minimising the risk of humanitarian dependency and bolstering local recovery. However, more work is needed to refine this approach for use in different contexts.

- **Develop impact measurement frameworks which more effectively capture the nuanced benefits of subsidy programmes deployed in humanitarian and displacement settings.** This could include, for example, assessing the business health of companies sustaining operations in displaced contexts over time, customer access to energy sustained over time, or businesses equipped with PUE to support a disaster response. Such measurements can provide an essential counter-narrative to the trend of equating simple sales and first-time access numbers alone with impact and demonstrate that energy access is no less transformative for the hardest-to-reach communities.

- **Build humanitarian and displacement settings into nationwide subsidy programmes and national energy planning.** Extending energy markets to hard-to-reach settings requires long-term funding and support best delivered through large-scale, long-running programmes. It is important to engage with partners running programmes targeting displaced people to prepare for their easy scaling into larger initiatives. Where possible, displaced communities should be included in national programmes from the start, with the lessons from earlier targeted efforts used to inform initial design.

- **Require independent evaluations for all subsidy programmes, including those targeting humanitarian and displacement settings, and commit to sharing them publicly.** The literature on RBFs and other subsidy programmes, including this report, is dominated by donor voices. Rigorous programme assessments are needed to test and build on the findings of this and other analyses. Greater transparency and communication around programmes is essential for the development of a robust set of best practices for designing and implementing subsidy programmes in the hardest-to-reach contexts.

## IMPLEMENTING PARTNERS

- **Recognise displaced people as customers, understand their needs, and design subsidy schemes that enable them to afford the products they want and will use.** This could include assessing customer preferences as part of baseline studies to ensure the selection of appealing products. Partners should also consult companies already operating in displacement settings to understand and address challenges that prevent customers from accessing consumer financing or affording instalments for PayGo-enabled higher-tier products.

- **Develop structured and continuous feedback loops with the private sector to ensure that supply-side incentives and technical support address the real and perceived risks of expanding into displacement contexts.** There are a variety of tools available for mitigating these risks, from advanced payments to assistance with logistics and marketing support. However, designing

without extensive and frequent consultation with companies risks that incentives and needs will be mismatched, requiring additional time and programme resources to course correct later.

- **Design subsidy programmes which are inclusive and grow the companies already operating in humanitarian and displacement settings.** This might include providing advanced RBF payments for companies that struggle to access working capital. Financial support and training to incorporate digital monitoring systems and credit assessment capacities into company operations may also be impactful. For refugee-led companies, it may be necessary to assist with business registration and other administrative procedures. This approach will cultivate a stronger market of locally led energy access companies committed to and skilled in serving hard-to-reach communities.

- **Build in flexibility from the start, to enable quick responses to emerging challenges throughout implementation.** In both emergency and protracted displacement settings, conditions can shift quickly, creating logistical, operational, or financial hurdles for companies. These may include infrastructure damage, disruption to regular financing and supply chains, or shocks to communities which depress demand. Partners must identify possible risks and prepare contingencies during the design phase. Such adaptations may include incorporating training to help companies operate in complex or fluid environments, using advanced RBF payments to ease cash-flow pressures, planning for remote support and capacity-building, or selecting verification tools that function reliably even with weak connectivity.

- **Tailor marketing and awareness-raising activities to displaced populations' needs and circumstances.** Marketing to displaced communities should be in customers' native language and culturally appropriate. It may be necessary to provide training on technology use and demonstrate the benefits of purchasing higher quality energy products over free handouts. Instead of promoting the product with the lowest price, it is important to market products that are appropriate for a given context (e.g. LPG stoves are inappropriate in contexts without fuel stations nearby). Customers should be enabled to evaluate and choose the right product for their needs.

- **Engage national and international humanitarian counterparts early and regularly.** This can help with overcoming challenges in gathering relevant data from displaced people and accessing settlements. It also supports greater alignment of humanitarian and development programming, enabling the pooling of resources and paving the way for integration of displaced communities into national energy planning and subsidy programmes.

## GOVERMENT PARTNERS

- **Develop inclusive policies that enable displaced people to pursue livelihood opportunities.** Policies such as freedom of movement, the right to work and the right to permanent residency can enable displaced people to pursue meaningful livelihood opportunities which allow them to purchase higher quality energy products for both personal and productive use. Access to improved income-generating opportunities is essential for reducing the subsidy for energy access required to reach these communities over time.

- **Include displaced people in national energy planning, including subsidy programmes.** Access to reliable energy can increase the self-reliance of displaced communities, reducing the need for public and humanitarian support, and enabling them to contribute to the growth of the national economy. Enabling companies to serve host and displaced communities simultaneously supports the efficient use of subsidy funding and drives energy market growth. Inclusive policies can also support the mobilisation of additional funding to pursue national energy and development goals.

## PRIVATE COMPANIES

- **Commit to making quality sales to displaced people and setting up sustainable operations in these communities.** Avoid marketing products to customers that they are unlikely to be able to afford under the available subsidy levels, and do not expand into hard-to-reach settings if doing so will strain operations and harm long-term growth. Such approaches will ultimately diminish customer trust and hinder market ecosystem development in displaced communities. Instead, advocate to donors and implementing partners on the support needed to serve these communities in a sustainable way.

- **Actively document and share concerns, operational challenges, and lessons learned from participating in RBF schemes in humanitarian and displacement settings.** These environments present unique barriers—such as higher logistics costs, customer mobility, limited infrastructure, and

greater working-capital pressures—that are not always visible to programme designers. By openly communicating what works, what does not, and where additional support or clarity is needed, companies help donors and implementers refine future RBFs to be more realistic, responsive, and effective. Their insights are essential for shaping incentives, timelines, verification requirements, and support mechanisms that genuinely reflect the realities of operating in displacement settings.

- **Work with implementing partners to analyse data on repayment rates among low-income and displaced people purchasing higher-tier products to gain a clearer picture of affordability and subsidy needs.** Where low-income customers demonstrate a preference for higher-tier and multi-functional products, it is important to ensure that subsidies are designed to enable purchase in instalments via PayGo or available consumer financing options. It is essential to communicate with implementers on repayment data from these groups in order to ensure subsidy design is appropriate.

## ALL PARTNERS

- **Continue conducting research and sharing learnings on the most effective subsidy approaches for delivering energy access in humanitarian and displacement settings.** The present report illustrates several important challenges and considerations for implementing subsidy programmes in these settings and emerging strategies for addressing them. However, it is only a starting point. Partners must continue gathering robust data on the best practices of subsidy design and implementation in these settings, and the impact of subsidy-enabled energy access for communities. It is also crucial to establish channels for building these learnings into national programmes.

A man purchases a solar kit in Niger.

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# 05

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# 06

# ANNEX: SUBSIDY PROGRAMME MAPPING

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **Access to Livelihoods and Energy for Refugees and Host Communities in Niger (ALHERI)** | Niger | Chadakori, Dan Dadji Makaou, Garin Kaka, Dargué In Maradi Region-Niger | **Implementation:** Mercy Corps<br><br>**Funding:** US Department of State Bureau of Refugees, Population, and Migration | Demand-side subsidy | Targeted (IDPs and refugees) | LPG | 2021-2023 | $1.4 million |
| **Accessing Markets Through Private Enterprises for Refugees' Energy Access (AMPERE)** | Uganda | Bidi Bidi Refugee Settlement | **Implementation:** Mercy Corps<br><br>**Funding:** RVO | Demand-side RBF | Targeted (refugees) | - | 2019-2020 | - |
| **An Electric Cooker to Fight Deforestation and Promote Peace Around Virunga National Park** | Democratic Republic of Congo | Goma, North Kivu | **Implementation:** Virunga Foundation, Virunga Energies, University of Montpellier, University of Antwerp<br><br>**Funding:** USAID, Agence Francaise de Developpment | RBF | IDPs | Electric pressure cookers | 2022-2024 | $240,000 |
| **BRILHO Market Development Fund (MDF)** | Mozambique | Nationwide, including Cabo Delgado, Manica and Sofala provinces | **Implementation:** SNV<br><br>**Fund Manager:** SNV<br><br>**Funding:** FCDO (UK Aid), SIDA | Supply and demand-side RBF, catalytic grants | Inclusive (IDPs) | Improved cookstoves, solar home systems, mini-grids | 2020-2026 | GBP 24 million |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **Delivering Resilient Enterprises and Market Systems (DREAMS)** | Uganda | Bidi Bidi Refugee Settlement | **Implementation:** Mercy Corps, Village Enterprise<br><br>**Funding:** Conrad N. Hilton Foundation, ICONIQ Impact, IKEA Foundation, Sea Grape Foundation, The Patchwork Collective | Supply and demand-side RBF | Targeted (refugees) | Systems and appliances for productive use | 2021-2025 | $4 million |
| **Electricity Access Scale-Up Project** | Uganda | Nationwide | **Implementation:** UECCC, Office of the Prime Minister, UNHCR<br><br>**Funding:** World Bank | Supply and demand-side RBF | Inclusive (IDPs and refugees) | Improved cookstoves, solar home systems, productive use of renewable energy | 2022-2027 | $608 million |
| **EnDev Demand-Side Subsidy Component Niger** | Niger | Bagaroua, Bangui, Guidan-Roumdji. Guidan-Sori, Azarori, Sabon Guida, Chadakori | **Coordination:** GIZ, RVO<br><br>**Implementation:** GIZ<br><br>**Fund Manager:** Mercy Corps Niger<br><br>**Funding:** NL MoFA | Demand-side RBF | Inclusive (IDPs and refugees) | Solar lanterns, solar home systems | 2022-2026 | €4.1 million |
| **EnDev Demand-Side Subsidy Component Uganda** | Uganda | Kiryandongo, Kyaka II, Rwamwanja refugee settlements in Western Uganda and refugee-hosting districts (RHDs) in Northern Uganda | **Coordination:** GIZ, RVO<br><br>**Implementation:** GIZ<br><br>**Fund Manager**: Private Sector Foundation Uganda<br><br>**Funding**: NL MoFA | Demand-side RBF | Inclusive (refugees) | Solar lanterns, solar home systems, improved cookstoves, higher-tier cookstoves | 2022-2026 | €4.9 million |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **EnDev Ethiopia Cooking Demand-Side Subsidy** | Ethiopia | Tigray and Gambella | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ<br><br>**Fund Manager:**<br>Adeday MFI (Tigray) and Awash Bank (Gambella)<br><br>**Funding:**<br>EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Demand-side RBF using vouchers | Targeted (refugees) | Improved cookstoves, cookstoves for productive use | 2024-2025 | -- |
| **EnDev Ethiopia Electrification Results-Based Financing** | Ethiopia | Tigray | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ<br><br>**Fund Manager:**<br>EnDev Ethiopia<br><br>**Funding:**<br>EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Supply-side RBF | Targeted (refugees, IDPs and host communities | Pico solar, solar home systems | 2024-2025 | -- |
| **EnDev Mali Conflict-Affected Communities** | Mali | Hombori, Forgho, Bagoundje, Gao and Mopti, | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ, NIS Foundation<br><br>**Fund Manager:**<br>EnDev Mali<br><br>**Funding:**<br>EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Demand-side subsidy | Targeted (IDPs and host communities) | Pico solar, solar home systems, mini-grids | 2023-2025 | -- |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **EnDev Mali Productive Use of Energy Pilot (under PAPSE Project)** | Mali | Senou and Zantiguila | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ<br><br>**Fund Manager:**<br>EnDev Mali<br><br>**Funding:**<br>EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Demand and supply-side subsidy | Inclusive (fragile contexts) | Pico solar, solar freezers for productive use, phone charging stations | 2024-2025 | -- |
| **EnDev Mali Solar Pico PV Results-Based Financing** | Mali | | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ<br><br>**Fund Manager:**<br>EnDev Mali<br><br>**Funding:**<br>EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Demand and supply-side subsidy | Targeted (IDPs and host communities) | Pico solar products | 2025-2026 | -- |
| **EnDev Niger Productive Use of Energy Pilot** | Niger | Tahoua | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ, UNHCR<br><br>**Fund Manager:**<br>EnDev Niger<br><br>**Funding:**<br>EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Demand-side subsidy | Targeted (IDPs and refugees) | Solar water pumps and large solar installations | 2025 | -- |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **EnDev Rwanda Female-Led Refugee Entrepreneurs** | Rwanda | -- | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ<br><br>**Fund Manager:**<br>Practical Action<br><br>**Funding:**<br>EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Demand-side subsidy | Targeted (refugees) | Appliances for productive use | 2025 | €465,000 (including PUE and RBF) |
| **Energy Solutions for Displacement Settings (ESDS) Ethiopia** | Ethiopia | Nguenyyiel Camp | **Implementation:**<br>GIZ, UNHCR<br><br>**Funding:**<br>BMZ | Demand-side RBF | Targeted (refugees) | Improved cookstoves | 2019-2024 | $22 million across 3 countries) |
| **Energy Solutions for Displacement Settings (ESDS) Kenya** | Kenya | Kakuma and Kalobeyei | **Implementation:**<br>GIZ, UNHCR<br><br>**Funding:**<br>BMZ | Demand-side RBF | Targeted (refugees) | Improved cookstoves | 2019-2024 | $22 million across 3 countries) |
| **Enter Energy Ethiopia** | Ethiopia | Sheder | **Implementation:**<br>Mercy Corps, Humanitarian Energy Plc<br><br>**Funding:**<br>Shell | Demand-side RBF | Targeted (refugees) | Solar mini-grids | 2018-2024 | $6 million |
| **Enter Energy Somalia PUE project** | Somalia | Barwaqqo IDP Settlement and Baidoa City | **Implementation:**<br>Mercy Corps<br><br>**Funding:**<br>FCDO (TEA) | Demand-side subsidy | Targeted (IDPs) | Appliances for productive use | 2024-2025 | $400,000 |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **Kalobeyei Mini-Grids** | Kenya | Kalobeyei | **Implementation:**<br>GIZ<br><br>**Fund Manager:**<br>Barclays Bank of Kenya<br><br>**Funding:**<br>FCDO, EnDev | Demand-side RBF | Targeted (refugees) | Solar mini-grids | 2014-2019 | -- |
| **Modern Cooking Solutions in Chad and Beyond** | Chad | Wadi-Fira and Ennedi | **Implementation:**<br>WFP, Association pour le Developpement Economique et Social (ADES), Secours Catholique et Developpement<br><br>**Funding:**<br>SIDA | Carbon finance | Refugees | LPG | 2021-2022 | -- |
| **FASER Results-Based Financing** | Mozam-bique | Nationwide | **Coordination:**<br>GIZ, RVO<br><br>**Implementation:**<br>GIZ, FASER<br><br>**Fund Manager:**<br>FASER<br><br>**Funding:**<br>EU | Supply-side RBF with some use of demand-side RBF | Inclusive (IDPs) | Pico solar products, solar home systems, improved cookstoves | 2019-2027 | €16 million |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **Myanmar Stove Campaign** | Myanmar | -- | **Implementation:** Mercy Corps<br><br>**Funding:** ONEVA CleanStart Energy Access Window, NORAD, SIDA, UNCDF | Carbon finance | IDPs | -- | -- | -- |
| **New Approach to Building a Participatory and Inclusive Marketplace for Sustainable Energy Solutions Pilot** | Mozam-bique | Machonjova, Metruchira, Muda Nunes, Ndedja, Savane Resettlements, Sofala Province | **Implementation:** IOM, NORCAP, Bridge Carbon, GreenLight Africa, Mercy Corps, Epsilon Ener-gia Solar<br><br>**Fund Manager:** IOM<br><br>**Funding:** Innovation Norway | Supply and Demand-Side Subsidies, Carbon Finance | Targeted (IDPs) | Solar home systems, improved cookstoves, solar irrigation pumps and freezers for productive use | 2022-2024 (scaling from 2024-2026) | -- |
| **Partnership for the Development of Eastern Congo (P-DEC)** | Democratic Republic of Congo | North and South Kivu | **Implementation:** Mercy Corps<br><br>**Funding:** USAID | Demand-Side Subsidies and RBF | Inclusive (IDPs) | Solar home systems, improved cookstoves | 2021-2026 | $40 million |
| **Refugee Clean Cooking Results-Based Financ-ing** | Uganda | -- | **Coordination:** GIZ, RVO<br><br>**Implementation:** GIZ, Vision Fund<br><br>**Fund Manager:** EnDev Uganda<br><br>**Funding:** EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Supply-side RBF | Targeted (refugees) | Improved cook-stoves | 2019-2023 | -- |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **Refugee Solar Results-Based Financing** | Uganda | -- | **Coordination:** GIZ, RVO<br><br>**Implementation:** GIZ, Vision Fund<br><br>**Fund Manager:** EnDev Uganda<br><br>**Funding:** EnDev Core (BMZ, NL MoFA, NORAD, SDC) | Supply-side RBF | Targeted (refugees) | Pico solar products | 2019-2023 | -- |
| **Renewable Energy for Refugees (RE4R) Phase 1** | Rwanda | Kigeme, Nyabiheke, and Gihembe | **Implementation:** Practical Action<br><br>**Fund Manager:** Practical Action<br><br>**Funding:** IKEA Foundation | Demand-Side Subsidies | Targeted (refugees) | Solar home systems | 2017-2022 | -- |
| **Results-Based Financing for Refugees (RBF4R)** | Rwanda | Mahama, Kiziba, Mugombwa, Kigeme, Nyabiheke | **Implementation:** Practical Action<br><br>**Fund Manager:** Practical Action<br><br>**Funding:** EnDev Core (BMZ, NL MoFA, GIZ, NORAD, SDC) | Demand-Side RBF | Targeted (refugees) | Higher tier cookstoves (tier 3 and 4), PUE appliances | 2023-2025 | $600,000 |
| **Solar Cookers for Refugees** | Chad | Wadi Fira Province (Iriba), Iridimi and Touloum refugee camps | **Implementation:** FairClimateFund and ADES<br><br>**Fund Manager:** FairClimateFund<br><br>**Funding:** Carbon credit sales | Carbon finance. | Targeted (refugees) | Solar cookers | 2019-2025 (ongoing) | €950,000 |

| Programme Name | Country | Region/ Community | Partners | Subsidy Type | Targeted/ inclusive | Technologies Included | Duration | Funding Volume |
|---|---|---|---|---|---|---|---|---|
| **SunScale Project** | Uganda | Adjumani, Obongi and Lamwo districts in the West Nile and Acholi Sub-regions | **Implementation:** Sun Culture Uganda<br><br>**Fund Manager:** Ayuda en Acción<br><br>**Funding:** Ayuda en Acción | Targeted (refugees) | Demand-Side RBF | Improved cookstoves, solar water pumps | 2022-2025 | €370,000 |
| **Supporting Electric Cooking in Displacement Settings (Journey 2 Scale)** | Uganda | Bidi Bidi Refugee Settlement | **Implementation:** Mercy Corps<br><br>**Funding:** Enhanced Learning and Research for Humanitarian Assistance, Cisco | Inclusive (refugees) | Demand-Side Subsidy | Electric cooking products | 2021-2022 | $195,000 |
| **Supporting Stronger Access to Innovative Energy Solutiosn in Displacement Settings (SUSTAINED) Phase II** | Uganda | Bidi Bidi Refugee Settlement | **Implementation:** Mercy Corps, CARE International, Oxfam<br><br>**Funding:** Embassy of the Kingdom of the Netherlands | Targeted (refugees) | Catalytic grants | Off-grid solar, productive use, and clean cooking products | 2024-2026 | €2.5 million |

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