



Humanitarian Energy: Energy for micro-enterprises in displacement settings

List of Abbreviations

BCC	Behaviour Change Communication
CRRF	Comprehensive Refugee Response Framework
E4I	Energy for Impact
EnDev	Energising Development
FDP	Forcibly Displaced People
GPA	Global Plan for Action for sustainable energy solutions in situations of displacement
GIZ	German Corporation for International Cooperation
HE	Humanitarian Energy
ICEED	International Center for Energy, Environment and Development
IDP	Internally Displaced People
IFC	International Finance Corporation
L&I	Learning and Innovation Agenda
PA	Practical Action
PAYGO	Pay-As-You-Go
PUE	Productive Use of Energy
RBF	Result-Based Financing
SERP	Sustainable Energy Response Plan for Refugees and Host Communities
SHS	Solar Home System
SNV	Netherlands Development Organisation
IVR	Interactive Voice Response
WFP	World Food Program

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EnDev at a glance

Approximately 3,6 billion people have no access to electricity or modern cooking technologies. This has a dramatic impact on quality of life, environment, health, education and income opportunities. EnDev's involvement focuses on providing access to modern, renewable energy. This is a pivotal factor in strengthening socio-economic development and combating climate change.

EnDev's drive is to improve the lives of the most vulnerable people; ensuring no one is left behind. Economic opportunities and green jobs are created by building markets for modern, renewable energy. EnDev contributes to reducing greenhouse gas emissions to protect our planet's climate. Its approach is to empower structural, self-sustaining change; kickstarting market and sector development that evolves further without support from EnDev.

EnDev is a strategic partnership. Dedicated donors, partners and individuals work together to support social development and economic development by providing access to modern, renewable energy in

more than 20 countries around the globe. The driving force behind EnDev is the partnership comprised of Germany, the Netherlands, Norway, Switzerland, and the United Kingdom; donors who are committed to accelerating energy access and socio-economic development. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the Netherlands Enterprise Agency (RVO.nl) act as the principal agencies for programme coordination.



Acknowledgements

We want to thank the EnDev L&I team, Florent Eveille and Alexander Haack, for their support and guidance. As well, thank you to the Community of Practice (CoP) for their proactivity and for sharing their learnings – particular thanks to Katrina Pielli as an independent consultant; Emmanuel Aziebor and Cecilia Ragazzi from Mercy Corps; Shripathi Hadigal from SELCO Foundation; Maria Knodt, Laura Patel and Herbert Njiru from Energy 4 Impact (E4I); Bettina Baesch and Anja Rohde from EnDev Uganda; Alison Filler and Rebecca Apicha from International Lifeline Fund; Raffaella Bellanca from the World Food Programme; Susanne Hounsell, John Munene and Merijn Havinga from SNV; Nicole Silvy Bouris from IFC; Harry Stokes from Project Gaia; Anantha Krishnan from ICEED Nigeria; Charlotte Panhuyzen from the Netherlands Enterprise Agency; Tracy Tunge and Mattia Vianello from Practical Action, and Aimee Jenks and Sarah Rosenberg-Jansen from the GPA.



Learning & Innovation Agenda

The Energising Development (EnDev) programme, as one of the largest technical assistance programmes for energy access, strives to further develop and structure its learning and innovation agenda whose results are to be shared with the wider SDG7 community, and in particular, shall lead to both a higher pace and impact of the EnDev program and other implementers in the field.

Through the EnDev Learning & Innovation (L&I) Agenda, EnDev wishes to support implementers in the collection, analysis and sharing of findings and experiences of the implementation of energy access activities – this includes the programme implementers (GIZ and RVO), and other implementing partners such as SNV, HIVOS, Practical Action, AVSI and CLASP.

Practical Action is leading the L&I Agenda on Humanitarian Energy (HE), which entails the development of this knowledge product and the coordination of a Community of Practice (CoP) on Energy for Micro-Enterprises in displacement settings. The CoP aims to bring together EnDev implementers and other organisations with interest in humanitarian energy to share and exchange details of successful approaches to promote energy for micro-enterprises in displacement settings.

This knowledge product aims to:

- Contribute to a higher pace of implementation and impact of the EnDev program and other interventions in the field of humanitarian energy.
- Expand the knowledge and understanding of innovative and successful approaches.
- Actively feed into new programming and pilots of EnDev (until 2024) and other interventions.

The present publication has been developed by authors Judith Ibáñez, Melania Tarquino and Dean Cooper from Practical Action, and meaningful contributions from the Community of Practice (CoP), in close consultation with Sarah Rosenberg-Jansen on behalf of the Global Plan of Action (GPA) for Sustainable Energy Solutions in Situations of Displacement, as well as additional one-on-one interviews that Practical Action has undertaken with different project teams to discuss the experiences of various past and ongoing initiatives.



Executive summary

This report represents a knowledge product of the EnDev Learning and Innovation (L&I) Agenda. It aims to help increase the rate of implementation and the impact of EnDev in the area of humanitarian energy, with a focus on **energy for micro-enterprises in displacement settings**. In particular, it is designed to **increase awareness amongst a range of related stakeholders** (including programme financiers, international agencies, in-country governments and project implementers) of successful approaches already adopted in this field, and to help direct future EnDev interventions.

In the report, “humanitarian energy” refers to clean energy sources across **all contexts of forcibly displaced people** (FDP), including refugees, internally displaced people (IDP), asylum-seekers and their host communities. The different perspectives of micro-enterprises involved with energy in displacement settings are also recognised. This includes consideration of energy-consumer entrepreneurs, energy-supplier entrepreneurs, and the energy economies in these settings, which involve informal and formal exchanges on energy across existing markets within refugee spaces.

This report presents **key enabling factors** that need to be addressed for the provision of income-generation based upon new access to clean energy sources and technologies. Such factors include access to appropriate end-user financing options to acquire PUE appliances and related equipment, as well as the ability of community members to identify, fulfil and sustain the related business opportunities. It is crucial to

increase the awareness of potential entrepreneurs regarding new prospects for increased income; and to build their capacity to develop such prospects, helping to create and support self-sustained businesses. Part of this process is to **promote examples** of successful interventions and the lessons learned that can be used to stimulate similar approaches. This report addresses this goal by showcasing relevant initiatives.

Eight case studies within the HE sector, that integrate or focus on entrepreneurship, are detailed in this knowledge product, ranging across West Africa (Nigeria, Burkina Faso), East Africa (Kenya, Uganda, and Rwanda), Jordan and India. Based upon in-depth interviews with the related project teams, these examples all present an overview of the initiative, the key achievements, innovative aspects, drivers of success, main encountered barriers and the enabling environment. They aim to provide concrete project/programme experiences as a good base of **knowledge for related future initiatives**.



Copyright: Renewable Energy for Refugees Project, Practical Action

Colotlidee and her microbusiness – RE4R programme

By comparing these practical implementation experiences, it has been possible to draw **common lessons** and to share details of successful approaches to promote energy for micro-enterprises in displacement settings. Key factors that are critical for success include:

In each case, the **challenges** and the **opportunities** to address these issues with appropriate follow-up interventions are highlighted. These conclusions are intended to provide the **justification for further action** that will help to improve the conditions encountered, and enable the commitment of appropriate resources to facilitate the opportunities identified.

1. Effective partnerships, coordination and collaboration
2. Enabling policy environment
3. Holistic programme design
4. Access to finance
5. Market activation, awareness and marketing campaigns
6. Control of market distortions
7. Monitoring and impact assessments
8. Gender considerations
9. Supporting the development of self-sustained businesses

The proposed actions have been divided into three main groups:

1.

Enabling environment:

- Coordinate with actors outside of the Humanitarian Energy field
- Harmonise pricing models
- Align project objectives with governmental goals
- Lobby for a national policy environment incentivising the private sector
- Support the private sector to enter camps/settlements
- Involve the private sector at the assessment/design stage
- Adopt an inclusive approach, including host communities
- Establish baseline quality standards
- Provide a long-term vision from project design and all stages of implementation.

2.

Market creation:

- Work with local lenders to develop finance products adapted to local conditions
- Partner with grassroots business developers supporting entrepreneurs
- Ensure continued support and innovative approaches address private sector uncertainty
- Engage with the finance sector to understand local market conditions
- Adopt joint metrics in HE projects to assess market potential
- Raise awareness and marketing efforts for quality energy products and services
- Integrate feedback from demonstrations and testing of products to build trust and engagement
- Facilitate market linkage of local entrepreneurs with energy companies and local distributors
- Assess and present different proven business models to local entrepreneurs and financiers

3.

Project implementation:

- Evaluate impact for some time beyond project closure
- Negotiate flexible outputs with donors
- Implement through consortia
- Engage the affected population when setting indicators of project success
- Design entrepreneurship programmes that target the specific needs of women entrepreneurs
- Address women's energy technology/service preferences
- Aim for holistic approaches rather than technology-focused
- Analyse the informal economy to engage entrepreneurs
- Understand training, coaching and mentorship needs

One general message is the need to **consider the broad context of FDP** targeted for this initiative. To avoid any conflict, income-generating activities and lasting market opportunities for FDP must be balanced with **complementary measures for host community members**. Despite the remote location of rural refugee settlements, these sites still operate within the local economy of the host country, and attract goods, people, and capital from outside to their active internal markets. These links must be taken into account by any external intervention.

The conclusions from this report were discussed in their draft form with related stakeholders, including those involved in the case studies presented. This ensured that the **challenges and opportunities reflect their experiences**, and that the recommendations are comprehensive. This also helped to highlight what other follow-up (e.g. research, knowledge products) would benefit the future Humanitarian Energy agenda of EnDev.

Reading guide

1

State of Play presents a brief overview of the humanitarian energy sector and the shift that it has undergone over the last decade. This section also sets the definition of energy for micro-enterprises, the focus topic of this knowledge product.

2

Case studies gathers a set of eight case studies, aiming at establishing a knowledge base for future initiatives of similar nature. These case studies from past and current initiatives are expected to shed new light as they highlight the successes and barriers encountered to date.

3

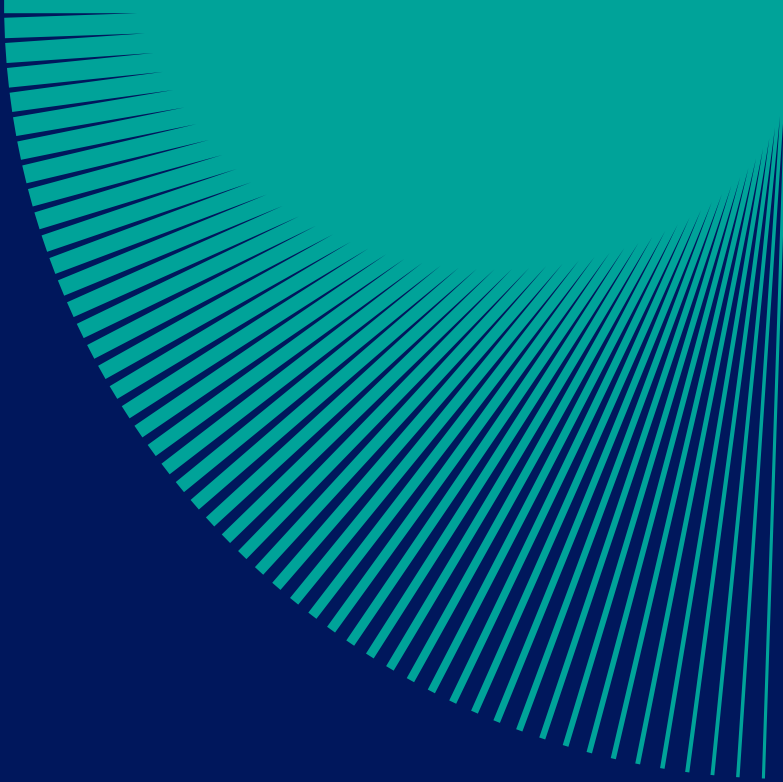
Challenges, opportunities and recommendations outlines the challenges and related opportunities identified from common themes that emerge from the case studies. It also includes the priority actions and recommendations to accelerate progress in the sector to target the needs of micro-entrepreneurs. These recommendations aim to foster an environment where entrepreneurship can sustainably grow within the humanitarian energy context.

Illustrative examples

Blue boxes provide illustrative cases from the countries

Recommendations

Turquoise boxes highlight general recommendations or critical success factors



State of Play



Humanitarian Energy (HE)

For the purpose of this report, **Humanitarian Energy** refers to the use of a range of clean energy sources across **all contexts of forcibly displaced people** (FDP). FDP includes refugees, internally displaced people (IDP), asylum-seekers and their host communities.

Globally, one of the most significant challenges faced by the **79.5 million forcibly displaced people** (FDP) – including refugees, internally displaced people (IDP), asylum-seekers and their host communities – is the lack of quality, reliable, affordable, and clean energy sources for cooking, lighting and the use of electrical appliances¹. Access to electricity is especially limited in rural areas, where, according to UNHCR, **only 10% of households in camp settings have access to electricity** against 22.6% of rural households in Sub-Saharan Africa^{2/3}. Cooking needs are met by very basic facilities – an estimated 80% of households in refugee camps use a three stone fire⁴.

In such displacement settings, the prevailing approach to address energy needs has been through the free distribution of energy sources that do not always meet quality standards and often creates **market distortion**⁵. This process rarely includes any post-sale customer-care or warranty options for the people in displacement settings. Moreover, unbranded or low-cost imitations (which may be unreliable) are often found available in these markets, undermining consumer confidence and resulting in market spoilage⁶. These challenges, added to the **lack of market information**, as well as the understanding of the informal economies found in displacement settings, discourage potential private sector companies or retailers from engaging with energy markets in displacement settings. Higher quality energy solutions (such as products meeting the Lighting Global/ VeraSol Quality Standards and supplied through private sector companies) need to be accompanied by **end-user financing** options so that these products/services are accessible to the most vulnerable among displaced populations, who often need to prioritise their limited revenue.

There is no longer a debate centred on whether access to **energy brings enormous benefits** to displaced populations. The need for appropriate energy supplies is now commonly recognised among humanitarian and other development actors, who increasingly place energy as one of the key components of resilience. With the recent launch of its four-year Global Strategy for Sustainable Energy⁷, **UNHCR has recognised energy access as a high priority**, with energy and environment often listed as one of the priority outcomes for national refugee response plans in countries such as Bangladesh, Ethiopia and Uganda. UNHCR also calls for a holistic approach by partnering with **development institutions and private sector actors**. However, short funding cycles and other pressing issues such as nutrition, WASH (Water, Sanitation & Hygiene) and protection often hamper humanitarian organizations' ability to include energy in country strategies and programs. Consequently, although the issue of energy access for FDP is increasingly recognised by potential financiers, **sufficient budget for any meaningful action is rarely allocated**.

Today, the debate is centred instead on the role different actors need to play in facilitating change at a systemic level, and how best to capture the existing refugee market for off-grid clean and high-quality technologies and energy services.



Copyright: Renewable Energy for Refugees Project, Practical Action

Outcome monitoring activity to understand the impacts of solar street lights

- 1 <https://www.humanitarianenergy.org/>
- 2 <https://www.unhcr.org/5db16a4a4>
- 3 <https://data.worldbank.org/indicator/EG.ELC.ACCS.RU.ZS>
- 4 Glada Lahn and Owen Grafham, Heat, Light and Power for Refugees: Saving Lives, Reducing Costs (Moving Energy Initiative 2015).
- 5 <https://www.chathamhouse.org/2015/11/heat-light-and-power-refugees-saving-lives-reducing-costs>
<https://www.lightingglobal.org/resource/procurement-of-stand-alone-solar-kits-for-humanitarian-aid/>
- 6 https://snv.org/cms/sites/default/files/explore/download/mbea_external_report_final_for_uploading.pdf
- 7 <https://www.unhcr.org/5db16a4a4>

Over the past few years, there has been growing interest among humanitarian actors to phase out free deliveries of energy products and services, and rather increase the use of **market-based** solutions. Numerous such market-based initiatives have sought to enable private energy actors to tap into this market, providing the **affordable products and services** required to meet the energy needs of households and enterprises in displaced communities. These efforts have generally been focused on long-established and protracted camps/settlements, reflecting the fact that 15.7 million FDPs (77% of the FDPs worldwide) were in a protracted situation by the end of 2019⁸. However, energy poverty is experienced throughout various

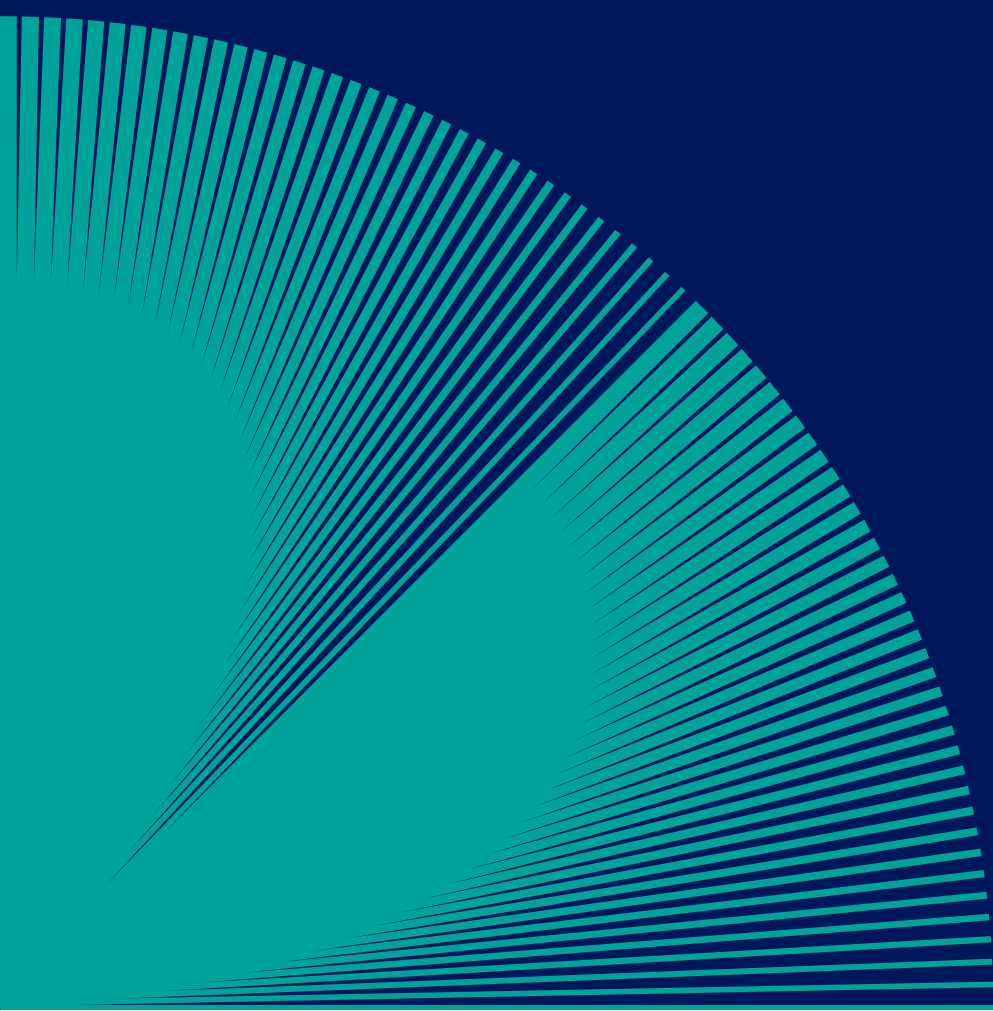
situations of displacement (newly arrived FDPs, urban FDPs, etc.), hence **tailored solutions should be developed** to target all of displaced populations.

In such contexts, the next step is to support displaced people to set up their own **micro-enterprises**. Enabling the productive use of renewable energy in displacement settings should be an integral part of this process. **Livelihoods can be improved** by generating income from products or services that become possible with an energy supply, which in turn increases the ability of providers to pay for and finance basic needs. The impact of energy for such micro-enterprises is the focus of this report.



What do we mean by energy for micro-enterprises?

Micro-enterprises in displacement settings (and their host communities) covers a wide range of businesses, shops, and all types of enterprises that **are owned, run and/or managed by displaced people**, who can be called micro-entrepreneurs¹. This term is used to focus on enterprises created and managed by displaced people themselves and is used in contrast to larger-scale private sector companies.



Far from being just a basic service, energy (including electricity and cooking) is often the basis of livelihoods for displaced people, as it supports small businesses and productive enterprises, and the functioning of markets and shops within refugee camps and host communities.

The meaning of **“energy for micro-enterprises”** covers a number of elements, including:

- **“Energy-consumer”** entrepreneurs – for example, users of electricity required in hairdressing salons, charging shops; lighting for informal food sellers and other spaces that require electricity to provide a service; restaurants and informal cafes that use cooking fuels and energy technologies to power their needs.
- **“Energy supplier”** entrepreneurs – meaning entrepreneurs that provide energy services. For example, businesses selling lanterns or cookstoves; businesses selling electricity directly through informal mini-grids; mobile phone charging; refrigeration services. Energy entrepreneurs can also provide training or maintenance of energy technologies.
- **“Energy economies”**⁹ of refugee camps and settlements– meaning the informal and formal exchanges on energy within and across markets, trading spaces and businesses within refugee spaces. Energy economies also include the financial and non-financial trading mechanisms¹⁰ supporting energy access for micro-enterprises, as well as being a mechanism for the delivery and supply of energy products and services for displaced people.

8 <https://www.unhcr.org/5ee200e37.pdf>

9 Term developed by Sarah Rosenberg-Jansen as part of academic research on energy for refugee enterprises: <https://www.rethinking-refugee.org/articles/rethinking-energy-economies-for-refugees>

10 <https://www.rsc.ox.ac.uk/refugeeeconomies>

Micro-enterprises are often informal. However, they can generate considerable income within displacement settings. Therefore, **access to energy for these enterprises is inherently connected to job creation** and supporting livelihoods of displaced people¹¹.

For example, the Kakuma refugee camp and Kalobeyi settlement in Kenya have a dynamic informal economy consisting of more than **2,500 micro-businesses** providing a variety of goods and services¹². Energy access is low in both the camp and the

settlement and is often supplied through expensive and unreliable informal diesel mini-grids or individual generators. A solar mini-grid connects one of the three villages in Kalobeyi settlement. In the other two villages, the lack of a reliable energy supply constrains the businesses operating in the camps as they have no certainty on whether to expand their activities and so increase their earnings¹³. Unreliable energy supply puts cooking businesses at risk due to inefficient and unhealthy cooking practices and high fuel expenses.

Challenges	Opportunities
<ul style="list-style-type: none"> • Many HE projects have focused either on promoting and supporting the access of well-established energy firms to the markets within displacement settings or on the establishment of large-scale renewable energy plants to serve these settings, often overlooking the potential to boost energy access through the development of local energy economies • Limited research has been conducted on the entrepreneurial independence of energy businesses across displacement settings • Humanitarian implementation programmes often have a strong focus on the household level or community facilities (i.e. large institutional loads acting as an anchor for power demand and providing a stable source of revenue for mini-grid developers)¹⁴ • The informal character of the sector (e.g. due to regulatory constraints) may have caused these micro-businesses to be excluded in past data-collection exercises 	<ul style="list-style-type: none"> • It is an area with considerable potential to bring direct benefits to displaced people and their host communities: energy access, and opportunities for livelihoods and development • Potential to contribute to self-reliance objectives, by recognising and studying the entrepreneurial independence of businesses across displacement settings (contributing to the UN Comprehensive Refugee Response Framework CRRF)¹⁵ • Demand for more information on micro-business opportunities (due e.g. to the focus of interventions at household or community level, and the informal nature of existing businesses, which are then often not accounted for in databases) • Broad interest from the Community of Practice (see p6) on this thematic, and alignment with their vision, mission and goals

Table 1: Why are we looking at energy for micro-enterprises? Challenges and opportunities

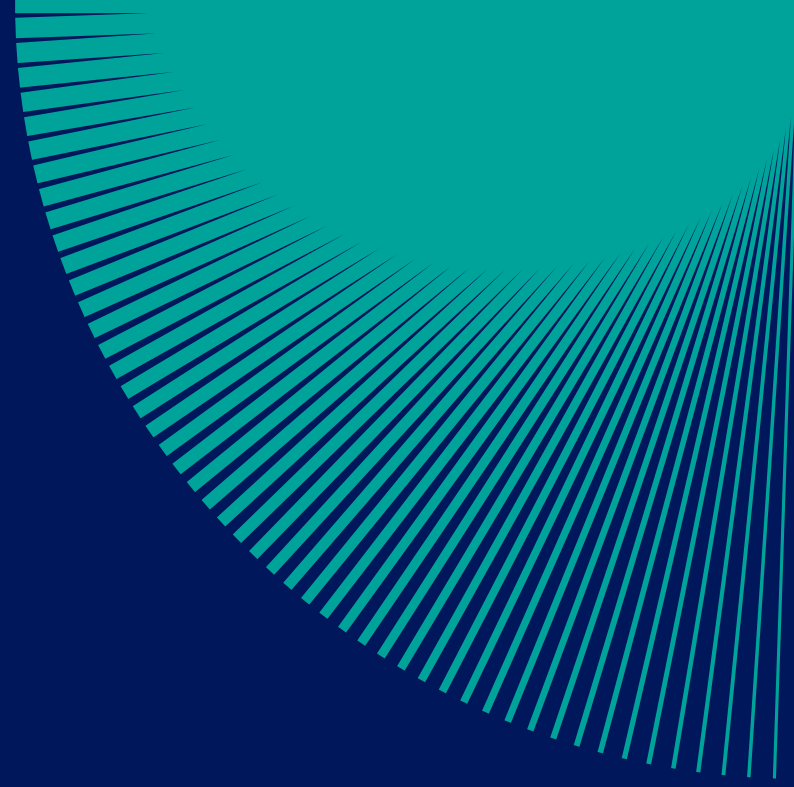
11 Page 32 onwards in: <https://www.evidenceaid.org/wp-content/uploads/2016/02/PeterThomas-MScSA-January2016-Thesis-compressed.pdf>

12 <https://www.rsc.ox.ac.uk/publications/research-in-brief-refugee-energy>

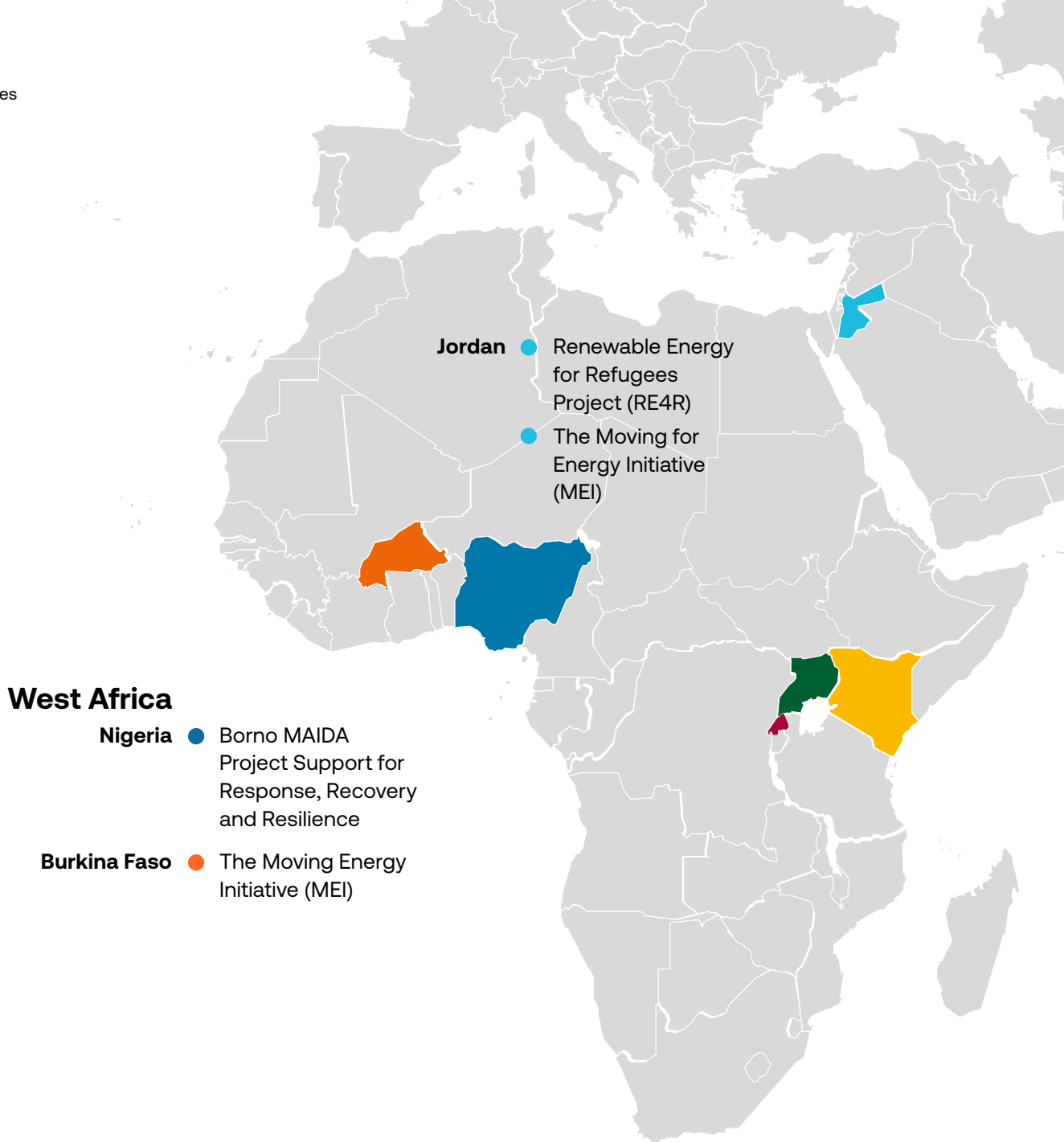
13 Market-based Energy Access Project, Kakuma Refugee camp, Kenya

14 <https://sun-connect-ea.org/wp-content/uploads/2020/04/Sustainable-mini-grid-systems-in-refugee-camps-Rwanda-web.pdf>

15 <https://www.unhcr.org/uk/comprehensive-refugee-response-framework-crrf.html>



Case studies



Given these challenges and opportunities, the CoP established under the EnDev L&I, which comprised of 12 member institutions, jointly agreed to look closely at lessons learned from past and ongoing humanitarian support activities that have included a component on energy for micro-enterprises in displacement settings. Each of these activities had commendable objectives, but the implementers were often unable to access any lessons learned elsewhere. Building awareness of related initiatives was therefore welcomed by all in the CoP. Additionally, this area of knowledge fits well with the mission and priorities of many other organisations, including those involved with the Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement (GPA)¹⁶, encouraging a

systemic change of perspective from immediate humanitarian aid to support the self-reliance and long-term development of displaced people.

A goal of this report is to stimulate innovative thinking that is needed to identify and explore new approaches for those informal and small-scale businesses that might have previously been overlooked by past data-collection exercises. Using the learning and recommendations highlighted, this paper aims to contribute to better-informed sector decision-making and the design and delivery of effective projects and programmes targeting entrepreneurs as agents of change towards more resilient economies in displacement settings.



Back in 2015, the Moving Energy Initiative Programme created a paradigm shift in the way energy access was considered within the humanitarian space. Since then, many new initiatives have mushroomed to support private sector actors to operate in displacement settings. These have acknowledged the importance of leaving no one behind regarding access to clean energy services that sustain electricity and cooking needs, and the crucial role that energy plays in improving livelihoods. This chapter summarises, in reverse chronological order (ending with the Moving Energy Initiative), some of the achievements, key barriers and drivers of success of eight different initiatives.

Figure 1: Map Case studies

16 The Sustainable Energy Refugee Response Plan for refugee and host communities (SERRP) which is being developed by the Ugandan Ministry of Energy and Mineral Development

CASE ●

1. Market-based Energy Access Project, Kakuma Refugee camp, Kenya

About MBEA – October 2019 – March 2021 (December 2023)

The project was designed under EnDev programme and is implemented by SNV Kenya. The MBEA project promotes supply, distribution and use of clean cooking and solar-powered solutions through a market-based approach while also driving systemic change through partnerships. By engaging private sector partners, SNV supports the development of distribution channels for the targeted products in the camps and the host community and provides technical assistance and financial support as well as awareness-raising and behavioural change measures. Besides, SNV engages in partnerships with relevant agencies operating in the refugee camp to promote co-financing for solutions targeting social institutions, and also supports a local stove production unit. MBEA entered its second phase in October 2019, scaling up the pilot and building on the lessons learnt and extending the focus from household needs to social institutions and SMEs.



Copyright: SIF Kenya



Key Achievements

The project sought to achieve the following specific objectives within the refugee context:

- Facilitate access to household lighting and clean cooking solutions for refugees and members of the host community.
- Ensure sustainable availability, adoption and use of stand-alone solar systems and cookstoves for productive use in business settings and social institutions.
- Stimulate and facilitate access to credit for suppliers and end-users of off-grid solar systems and clean cooking solutions.
- Create jobs along the energy access value chain.

In total, off-grid solar companies sold 2,556 solar lanterns and 4,322 Solar Home Systems (SHS) to the host and refugee community throughout the project's duration. Cookstoves companies sold 2,005 industrial stoves and 277 locally made stoves. 120 LMEs were trained to sell clean energy products, strengthening distribution. Marketing and awareness-raising campaigns contributed to demand creation for the products. 40 radio spots were aired, 3 videos developed, 2 main events and 108 mini-market activations events organised.

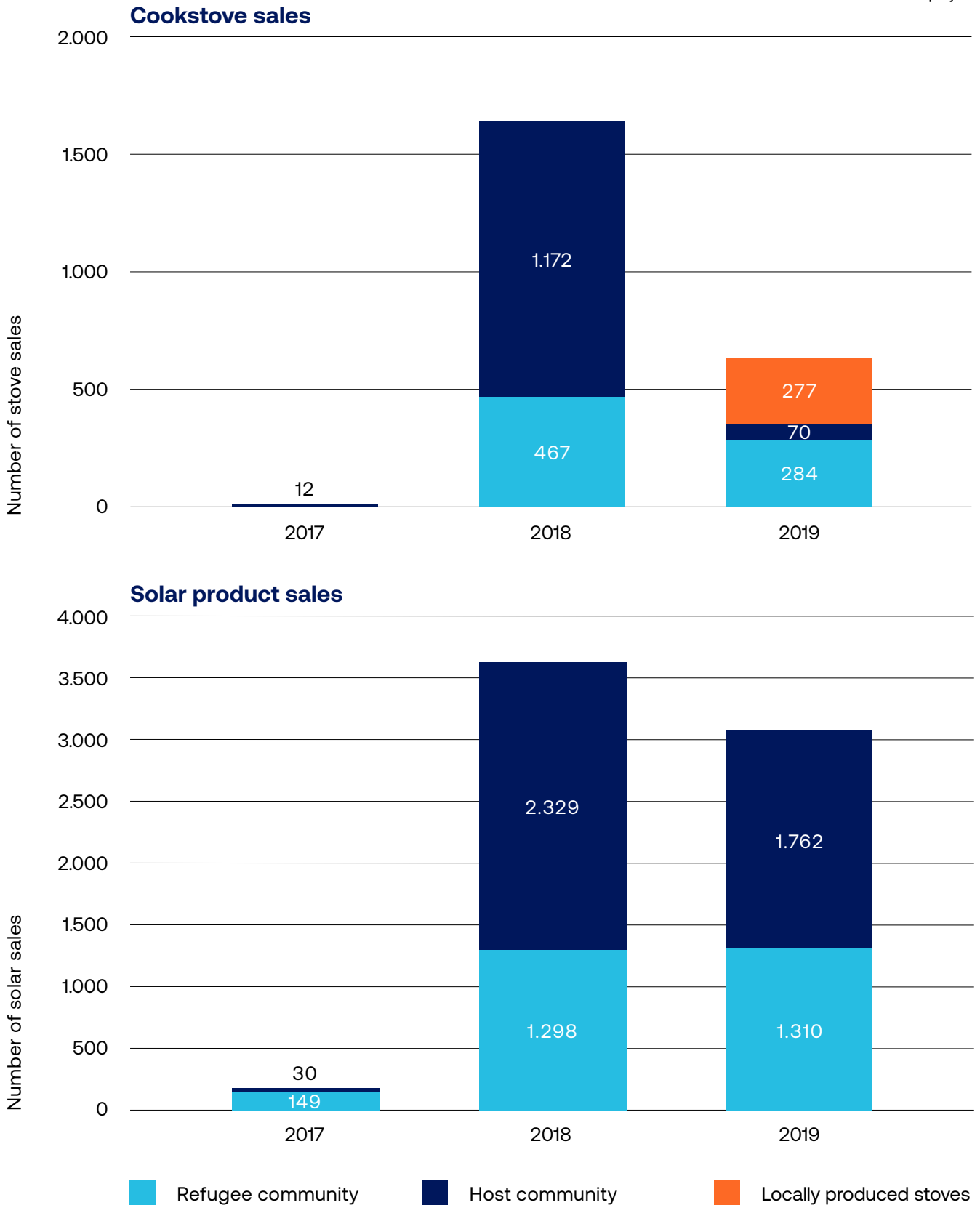


Innovative aspects & Drivers of success

- Engagement of private sector businesses in service delivery to refugees, otherwise undertaken by humanitarian agencies.
- **The local presence** and expertise in the camps and a thorough assessment of challenges and conditions have been key to the success of the initiative. As well as a **strong network** with different actors within the camps, such as community leaders, public and private sector organisations.
- The local presence has been critical to **understanding the systems and dynamics** within the camp – e.g. when and how money transfers are done, when and where to undertake networking and marketing events, etc. to accompany and support the market penetration of products.
- Use of **Local Capacity Builders** to support awareness-raising and community engagement. Regularly checking in with distributors and end-users and obtaining feed-back on product performance and needs.
- **Decentralisation of supply and maintenance operations** leads to improved customer service and should be expanded further to drive market sustainability.
- **Marketing efforts were complemented with awareness-raising and sensitisation** to increase acceptance and adoption of clean energy products. Clean cooking lagging behind solar products, behavioural change campaigns are required.

MBEA full report is available online

Figure 2: Sales in host and refugee community
 Source: MBEA project



The number of cookstove and solar product sales to date has been slightly more successful in the host community than in the refugee camp – access to finance and affordability of systems remains a challenge. Purchasing power exists among parts of the population, but financing solutions need to be found for the bottom of the pyramid households.



Main encountered barriers

- **Awareness raising and changing mindsets on free delivery of energy services** to refugees was required to trigger market development
- **Stakeholder engagement was initially challenging, including the inclusion of community leaders, but received quick buy-in.** Multi-stakeholder involvement is vital to make the transition to a sustainable market-based energy access model in the camp and host community. All stakeholders must be willing to commit to achieving the change.
- **Ensuring smooth logistics** of service delivery by private sector companies was challenging for some due to remote location of the camp (e.g. delays in servicing products under warranty, risk of market spoilage for bioethanol as supply chain broke down)
- Most systems continue to be sold on a cash-only basis, as M-PESA or other mobile payment mechanisms (thus PAYGO options) are not accessible to all. **Officially refugees are not allowed to use mobile money for more than three months.**

»There is a need for scalability in systems to bring refugee households and businesses on the energy ladder and enable them to increase their incomes.«

Susanne Hounsell



The enabling environment

- Generally, the Kenyan **government is favourable to market-based approaches**. Also, the solar energy sector is well developed in Kenya, with a fair amount of local distributors that facilitated the engagement of private companies in the programme.
- **Inclusion of host community** helped in programme and target delivery to date by creating a broader demand base for private sector partners to access.
- The **widespread availability of mobile money systems in Kenya as a whole enables PAYGO** for financing in the host community.
- Collaboration and open-mindedness of UNHCR and other partners was an important driver of successful programme implementation.



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CASE ●

2. Accessing Markets through Private Enterprises for Refugees' Energy access (AMPERE): Uganda

About the programme July 2019 – July 2020

Funded by Netherlands Enterprise Agency (RVO) under the AME (Access to Modern Energy) partnership with the Dutch Coalition for Humanitarian Innovation (DCHI), and implemented by a consortium led by Mercy Corps Netherlands (Mercy Corps), in partnership with SNV and Response Innovation Lab (hosted at Save the Children). AMPERE sought to test, prove and build evidence for quality, affordable and reliable market-driven energy access solutions in humanitarian response programming. The pilot aimed to bridge the gap between demand and supply of quality, affordable energy services and equipment at the household, small business and institutional level while collecting market data around the appropriateness of energy-related PAYGO systems in refugee settings.





Simon Poni Fibi, a refugee in Bidibidi settlement, Uganda. Through access to energy, she has upgraded her barber shop with electric appliances and she also charges mobile phones for a fee.



Key Achievements

- 3,639 solar products sold – 600 were PAYGO systems on a 12-month payment plan (3,609 households lighting systems, 30 productive use solar systems bought by small businesses on PAYGO plans; ten of which are owned by women).
- Established partnerships with d.light Design Uganda Ltd and Village Power Uganda Ltd to introduce their services in Bidibidi, including PAYGO solar products. Despite having a presence in Uganda, the 2 companies never ventured in displacement settings before – AMPERE was instrumental in illustrating the potential for the market opportunity.
- The solar companies recruited and trained 28 sales agents (refugees and host community members) and established their Customer Service centre in Bidibidi in one of Mercy Corps' Innovation Centres for recollection and after-sales. Village Power Ltd have demonstrated interest in this market to deploy additional systems on their own.
- To target sales to women, AMPERE implemented a women-to-women approach through the recruitment of female sales agents and direct marketing events targeted at female-owned and led Village Savings and Loan Associations.



Innovative aspects & Drivers of success

- Mercy Corps acted as a **market development catalyst**, working with the private sector to address critical constraints, to allow and facilitate the market system to function more effectively and inclusively. Facilitation support to private companies includes access to consumer groups and infrastructure for last mile distribution points, behaviour change communication, community mobilisation and awareness-raising, business model reinvention and smart results-based entry subsidies.
- **Adaptation of a Result Based Financing (RBF) model for displacement settings.** A smart market-entry subsidy program aimed at testing consumer payment behaviour and creditworthiness at various price incentives. Solar companies received a 50% incentive payment for each solar system installed. For PAYGO clients, the consumer then pays the remaining 50% over 12 months using mobile money or cash. It was found that if PAYGO is extended to 36 months repayment period, the end-consumers can pay full prices of the product.
- AMPERE funded four green innovative energy ideas to increase knowledge, awareness, demand and provision of energy products across the settlement. To date, the impact of the four innovations are:
 - **Two community-level energy cooperative shops** were established by ENventure Ltd to source products from both companies. The two clean energy kiosks are situated at the Mercy Corps Innovation Centre and at the trading centre of village 14 of Bidibidi respectively. 11 residents form the Yoyo Youth Clean Energy Cooperation (YOYEC) from Bidibidi.
 - **Building a saving culture among members of the KumiKumi platform to acquire energy products.** So far, 20 members have already saved up and bought quality solar products from d.light.
 - Raising Gabdho Foundation **built the capacity of community cooperatives to manufacture both for domestic and commercial purposes.** KumiKumi implemented a digital saving product among members to enable them to save over time to acquire quality energy products.
 - VIAMO/ANCHOR started **broadcasting Interactive Voice Response (IVR) messages** to community members to raise awareness on clean energy options and quality products and services, and information about retail points (energy cooperative, d.light and Village Power retail shops located at the Innovation Center Zone 3).
- **Streamlining prices and last-mile partnerships.** Currently, YOYO Youth Clean Energy Cooperation (YOYEC) cooperatives are the official last-mile retailer for d.light products (smaller systems), whereas Village Power directly arranges their last-mile infrastructure and after-sales services as they have larger PAYGO systems.
- The Humanitarian OpenStreetMap Team (HOT) conducted a **mapping of clean energy and environmentally friendly solution providers in the settlement**, to support the Green Innovation pilots, and contribute to an overall better understanding of the energy & environment ecosystem in Bidibidi accessible to all stakeholders.



Main encountered barriers

- The **uncertainty around using refugee Identity Documents (IDs) versus national IDs during credit checks** still exists—further engagements needed on this with the Office of the Prime Minister (OPM), the Central Bank of Uganda, Finance Ministry, etc.
- **Limited support to enter the camps and carry out market-development activities** to build up a market. Broader discussion with OPM on the future recovery of the settlements is needed. OPM requires specific permits for private actors to operate in the camps, while reducing the time and agility for private actors is key.
- **Private sector actors are unified in their request for a tax system that supports targeting hardest to reach areas, discussing the need for subsidies and tax exemptions.** Examples of this include the tax paid on the metal used to produce improved cookstoves, as well as the VAT levied over specific components and spare parts which are critical for service delivery by off-grid energy solutions providers. It is important to reduce costs through a tax regime for last-mile and most vulnerable customers.



The enabling environment

- The support for **market-based energy access interventions as contained in key policy documents** such as the Comprehensive Refugee Response Framework (CRRF) and Ministry of Water and Environment Response Plan for Refugees and Host Communities.
- **Consensus among key implementing partners** in refugee settlements to explore market-based approaches to energy access programming. This consensus has been solidified through fundamental cross-sectoral coordination mechanisms such as the CRRF Steering Group and the Working Group on Energy and Environment (WorkGrEEEn) which is co-chaired by UNHCR and OPM – Department of Refugees. Members include national and international NGOs operating in the energy and environment sector.
 - **Ownership of SIM cards and mobile money wallets.** Refugees and host communities' ownership of SIM cards and mobile money per the previous registrations made it possible to implement mobile-based payments for PAYGO systems and to broadcast Behaviour Change Communication (BCC) messages via Interactive Voice Response (IVR) messaging.
 - **The high consumer demand for energy products** backed by real lighting needs also was instrumental in the success of this project.



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CASE

3. Market-based Energy Access in Refugee Settlements and Host Communities via solar-powered energy kiosks in Uganda

About the project November 2017 – Ongoing

The project “Sustainable Use of Natural Resources and Energy in the Refugee Context in Uganda” was funded by former DFID and implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the World Agroforestry Centre (ICRAF). The aim was to pilot an integrated and innovative approach to natural resource management by creating sustainable solutions to improve access to energy, water and other ecosystem goods and services for refugees and host communities. Due to its vast experience in creating sustainable access to energy, EnDev Uganda was in charge of the implementation of the energy component of the project and is since continuing and extending its activities. The approach comprises activities on the political level to improve framework conditions for the implementation of market-based sustainable approaches as well as concrete improvement of access to energy for refugees’ and host communities’ households, social institutions and productive users. The access interventions include setting up two fully solar-powered energy kiosks, providing training to local stove artisans and to local vendors of energy products, and the implementation of an awareness campaign on the benefits of quality solar products and improved cookstoves to strengthen demand.



Copyright: Charity Dralega / Rural Initiative for Community Development in West Nile (RICE-WN)



**Energy Kiosk in Rhino Camp
Refugee Settlement**



Key achievements

- **Set up of 2 solar-powered energy kiosks** in adapted portable containers, that sell quality solar products, improved cookstoves, cold drinks and energy-related services like phone charging, printing, photocopying, rechargeable batteries as well as other secretarial services and offer computer trainings.
- The kiosks management teams were provided with specialised training and start-up kits comprising a variety of improved cookstoves and solar products to try market uptake and de-risk the start-up phase. The kiosk managers were able to **reinvest their revenues to restock products**.
- One of the kiosks is managed by a South Sudanese youth group, **generating income for 8-10 people right from the start, the other kiosk is managed by a local NGO**.
- **The awareness-raising activities**, especially those that allowed people to try out solar products and stoves, proved successful to increase their confidence in these products (since many had negative experiences with low-quality products in the past). The awareness campaign consisted of road-shows that were accompanied by radio messaging and billboards.



Innovative aspects & Drivers of success

- To set a **robust baseline**, EnDev Uganda implemented a baseline assessment, interviewing 400 refugee and host community households, 30 business owners and 8 focus groups.
- **The kiosks operate under 2 different management models.** One is operated by a South Sudanese refugee group and the other by a local NGO. Monitoring allowed for a comparative analysis of the ownership models. Sales and level of activity are significantly higher in the kiosk that is managed by the group and run as a business. Their motivation is high to achieve sales.
- The most successful income generating activities are the **offering of energy related services** (such as internet cafe, printing, photoshops, up-to 400 phones charged per day, etc.), as these are activities that don't need any kind of awareness raising.
- **Conscious selection of refugee settlements.** One settlement was of older, the other one of newer influx, the latter with refugee households having experiences in-kind distribution of items relatively recently. The kiosk established in the more recent settlement faces more challenges in their sales.



Main barriers encountered

- **The original implementation time of roughly half a year under the DFID financing was not enough** for supporting the up-take of energy businesses, developing viable business models and linking Ugandan energy enterprises to the settlements. Therefore, EnDev Uganda has continued to support the kiosks until today.
- **Continuous support needed in training the kiosk managers.** Resources need to be planned for to provide training and coaching tailored to the specific needs.
- **Poor infrastructure.** From the main relevant economic centres like Kampala or Arua, it takes long to reach the settlements and transport costs are high. Poor quality of roads within the settlements make **transport of goods risky as they might break.**
- **Incentivising energy product companies to deliver their products to the kiosks was not easy.** They would only offer the delivery of very high numbers and potentially at an increased cost due to distance. A matchmaking event for solar and cookstove companies was conducted, where companies were invited to travel to the settlements and meet kiosks teams and vendors. This was not sufficient to establish sustainable business links. EnDev Uganda has now started to pilot result-based financing approaches for the sales of improved cook stoves and solar products.
- **Lack of formal micro-financing schemes for customers to access energy products.** In most cases, energy kiosks have been providing payments in instalments to people they know and trust, so not many can access them. Other financing schemes are currently hardly available for displaced populations.
- Low purchasing power and willingness to pay for energy products in a situation where a number of different needs (food, education, health etc...) must be met with very limited household incomes.



The (enabling) environment

- **Uganda progressive refugee policies:** the right to work and run businesses allowed the project implementation.
- **Early and constant coordination with local and governmental stakeholders is key.** This includes the Office of the Prime Minister (OPM) that is responsible for refugee coordination in Uganda. The main coordination partner was UNHCR who oversee most interventions in the settlements. The broader coordination is being done in the Energy and Environment Working Group (WorkGrEEen), where EnDev has always been one of the few development partners actively participating. The Ministry of Energy and Mineral Development (MEMD) is the core political partner of EnDev in Uganda, and thereby the line ministry with which all activities are discussed. When it comes to implementation, coordination is highly important with District Local Governments and the Refugee Welfare Councils.
- **Humanitarian-Development Nexus needs to be strengthened.** Despite the fruitful coordination efforts (see above), humanitarian and development organisations implement under different coordination schemes and with different approaches, but partly in the same geographical areas with the same target groups (in-kind distributions versus market-based approaches is a challenge).
- Energy activities are better coordinated in the energy and environment space. **However, also stakeholders in livelihood, water, forestry and others sometime distribute stoves or solar lanterns.** They do not necessarily fall under the coordination scheme in the energy sector.
- Currently, GIZ is supporting the development of the **Sustainable Energy Response Plan for Refugees and Host Communities (SERP)** which is the core policy document for the integration of refugee issues into national policies in the energy sector. It is part of GIZ's support to the implementation of the Global Compact on Refugees / Comprehensive Refugee Response Framework. The SERP will enable the Government of Uganda to run a "whole of Government approach" to energy issues.



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CASE

4. Renewable Energy for Refugees (RE4R)- Rwanda, Jordan

About the project/initiative April 2017-Feb 2022

Working in partnership with UNHCR, the UN Refugee Agency and supported by the IKEA Foundation, the RE4R project helps refugees and their host communities access finance, training, technology and expertise to facilitate renewable energy powering homes, schools, health clinics and businesses, enabling refugees to flourish and move from reliance on aid to economic independence. Within the project, the livelihood component is providing entrepreneurship training to refugees and host communities in order to establish businesses and optimise livelihood opportunities. This work is being delivered in all three RE4R camps in Rwanda (Nyabiheke, Kigeme and Gihembe) and is supporting ~150 refugee and host community entrepreneurs with business mentoring, access to electricity and appliances, technical training and access to finance. Businesses being supported include hairdressers and salons, butchers, a cybercafé, phone repair shops, milk refrigeration, popcorn making, egg incubation, welding, tailoring, grain milling, carpentry and restaurants/cafes. This work is largely being delivered by Practical Action's partner, Energy 4 Impact (E4I), under a sub-agreement. Other main partners for this work include MINEMA, UNHCR, Inkomoko Entrepreneur Development, Umutaguha Finance Company Ltd, bank, BELECOM, BBOX, various suppliers of electrical appliances and Rwanda Energy Group (REG). The duration of this component is 18 months.



Copyright:
Renewable Energy for Refugees Project,
Practical Action

[Project Website](#)



PUE Clinic demo



Key achievements (as of September 2020)

The businesses are being supported to either procure enterprise solar kits that can support productive use, construct a nano-grid (customised larger SHS from 200 watt-1.5 kW) or connect to the national grid (for businesses that require high power consumption, and that are in a designated on-grid location). The main aim is to ensure that all these businesses are connected to a reliable source of power and can acquire and power productive use of energy (PUE) appliances. This has enabled them to improve service delivery to refugees and host communities and be able to run profitable enterprises.

- 150 business owners are receiving ongoing business mentorship and 51 of them have acquired PUE. appliances.
- 145 entrepreneurs and stakeholders have been trained on the potential of PUE for livelihood development.
- 6 suppliers of appliances have been linked to 51 enterprises which has facilitated the acquisition of 80 PUE appliances.
- 12 entrepreneurs are attending vocational/artisan training to learn how to operate PUE appliances for effective utilisation and maintenance.
- 3 PUE clinics have been constructed and are used to share information about PUE, showcase common electrical appliances and raise awareness on livelihood opportunities in PUE.
- 385 people (refugees & host community) with increase awareness & knowledge on PUE in Kigeme, Gihembe and Nyabiheke as a result of the PUE clinics.
- 8 commercial relationships between entrepreneurs and markets collaborations established (e.g. linking restaurants to maize milling businesses).
- 10 loans secured and disbursed (from Umutanguha MFI, Inkomoko MFI, and SACCO) and 12 loans application under review by Umutanguha MFI and Inkomoko MFI).



Innovative aspects & drivers of success

- **Tailored one on one package of support and business mentorship** to address their identified business needs.
- Provided **vocational training to entrepreneurs** to be able to learn how to use PUE appliances more effectively.
- **Clustered entrepreneurs doing similar business** to grow their market base, pool resources and be able to procure PUE appliances and power.
- Setting up a **commercial business centre** to create a safer working space for businesses especially those using power from the national grid.
- Constructed a **PUE clinic in each camp to create awareness on the potential of productive use of energy for livelihood development among the refugees** including knowing the types of productive use enterprises, support provided to business, the appliances they may want to acquire, how much they cost and how they operate. In each of the refugee camps, we identified qualified vulnerable people who were trained and allowed to use the clinics for income generation as they raise awareness in the camps. Since the PUE clinics started operating, increased interest has been witnessed and more refugees are willing to engage in productive use activities thanks to this initiative.



Main encountered barriers

- **Poor camp settlement plan-** The structure of the enterprise premises and their proximity to other residential dwellings have made connection of these businesses to the national grid riskier due to safety concerns.
- **Resettlement plans affect the mind-set of the refugees**, which reduces their commitment to doing businesses.
- **Fear of the refugees to operate businesses in the host community due to taxes and other operating costs.** However, through the RE4R project we are continuously sensitising refugees on the advantages of integrating with the host community to expand their market.
- **Uncertainties, like COVID 19, have affected the performance of the businesses.** Some businesses have been impacted negatively by movement restrictions, e.g. bars. Through the RE4R project, these enterprises are now being supported to diversify and offer other products so that they have an active revenue stream.
- **Theft of appliances** and other equipment.
- **Low purchasing power** among refugees undermining growth projections
- **Affordability and lack of financing options** – the RE4R program granted 70% of the cost of the technology.
- **Overdependence on grants**, reducing the effort to raise capital for business support.



The (enabling) environment

- Some of the camps are covered by the national grid, **but a national ID (which some refugees did/do not have) was needed in order to get an official grid connection.** However, after discussions between E4I, Practical Action, MINEMA and UNHCR, the Rwanda Energy Group Limited (a government-owned holding company responsible for the import, export, procurement, generation, transmission, distribution and sale of electricity in Rwanda) have accepted to connect the supported PUE after assessing their business premises and safety of internal wiring.
- Sometimes refugees are **not willing to do businesses outside the camp** because they have to pay government taxes.

»Careful assessment of entrepreneurs and their business ideas is vital to ensure the success of individual and group businesses, to diversify and complement the goods and services provided in the camps, and to maximise job creation.«

Laura Clarke



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CASE ●

5. Safe Access to Fuel & Energy (SAFE) project in Uganda: Building community resilience through the marketing of energy efficient products

About the project October 2018- July 2019

This project was developed through a partnership between the World Food Programme (WFP) of the United Nations and International Lifeline Fund (Lifeline) with support from Uganda's Office of the Prime Minister (OPM) and the German government. This project aimed to lay foundations for the establishment of a green energy market that serves the local energy needs, mitigating the environmental degradation caused by the harvesting of wood fuel and creating livelihood and employment opportunities. It worked with 5 target communities in Uganda: 3 refugee settlements -and their host communities- in West Nile and Southwest, and 2 rural districts in Karamoja. These communities have hosted over 1.3 million refugees that fled from a situation of renewed fighting, food scarcity, and economic deprivation throughout South Sudan and the Democratic Republic of the Congo.



[Project Website](#)



A trained kiosk staff member sells an efficient charcoal stove



Key achievements

- 3 energy kiosks were established to support the sale of energy-efficient technologies, and their staff received training. As of May 2020, more than 700 efficient stoves were sold by these kiosks.
- One of the supported energy kiosks opened its second location without support from the project, which demonstrated the capacity to reinvest, generate significant income and adjust to market demands. Time will be needed to monitor whether the businesses are fully self-reliant, but the staff did adjust their strategy to meet market demands, which is promising.
- 2 community kilns were constructed at technical institutes to enable the local production of various ceramic products, and training on their usage was provided to the operators.
- The programme enabled the expansion of the market by engaging 5 new local vendors to sell in their communities, who sold more than 2000 efficient stoves by May 2020.
- 2000 households received an EcoSmart Wood Stove as a promotional distribution. All households were trained on the usage of the stoves with 97% of them using the stove between 3 to 5 months after its introduction, indicating a significant improvement in their cooking experiences.
- Efficient institutional stoves were constructed at 3 refugee reception centres and 20 schools to support refugee and school feeding programs, and cooks were trained on stove operation. This enabled the nourishment of 12,000 students, and more than 2600 recently arrived refugees.



Innovative aspects & Drivers of success

- **Different management models for the energy kiosks** enabled the team to learn from different governance models: one was run entirely by refugees, another was run by refugees with support from a Community-Based Organisation (CBO), and a third was run by an already established local entrepreneur.
- Use of local materials and labour in manufacturing the efficient stoves allowed products to be kept at affordable yet healthy market prices to generate profit for future growth.
- **72 refugees and community members were employed as SAFE Community Trainers** to conduct stove user trainings, provide after-programme support, and serve as local project ambassadors. This component was key to boosting community involvement, support and awareness of the project.
- **Consumer awareness campaigns** (radio, community events, and cooking demos) were conducted to stimulate demand and promote the kiosks. The advertisements for fuel-efficient cookstoves focused on the stove benefits that matter the most to the refugees and rural communities (fuel savings & related costs, affordability, smoke reduction, fewer burns and accidents).

»Kiosk management models with more structured support (from CBO or local entrepreneurs) have demonstrated higher sales, greater organisational skills and opportunities for refugees to learn from working with experienced and skilled staff.«

Alison Filler



Main encountered barriers

- **Short timelines of projects and changes in funding** can impact the project results and the progress towards laying market foundations can be lost. If solid sustainability strategies are not in place, there is a risk of abandonment of kiosks and kilns, dissolution of consumer awareness or loss of government engagement.
- In order to leverage the community kilns for the production of ceramic products that serve local demands the required quality, further training and collaboration with technical institutes was needed. Additional **business training and last-mile distribution support is also needed** for the energy kiosks to continue building on the market opportunities and serving the refugee and host populations.



The (enabling) environment

- The **refugee policies in Uganda**, such as the right to work and own land and the freedom of movement, facilitate the resettlement efforts and support the market emergence and the integration with host communities.
- The programme provided broadly **70% of the support to refugees and 30% to the host communities**, promoting the engagement of the wider community.
- A key for the success and sustained impact was the **engagement of local government**. 26 local government officials from 5 districts were trained on specific aspects of the project, livelihood, resilience, gender, and local capacity building. Some local governments expressed their willingness to replicate components of this project.
- The **WFP Country Strategy in Uganda was aligned** with the objectives and activities of this programme.
- **Building trust** with the communities and other partners from the early stages of the project is essential for success. This has been done through participation of different stakeholders **during the design and close monitoring**. The employment of refugees as trainers made this process much more efficient and inclusive.



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CASE ●

6. Borno MAIDA Project: Support for Response, Recovery and Resilience in Borno State, Nigeria

About the project 2017 – 2021

This project, funded by the European Union, and implemented by the International Centre for Energy, Environment and Development Foundation (ICEED Foundation) in partnership with Mercy Corps, seeks to support the recovery of up to 200,000 men, women, adolescent boys and girls who are returnees, IDPs and host community members affected by the insurgency in Borno State in Nigeria. The goal of the programme is to increase social cohesion, recovery and resilience to economic, social and climate-related shocks, and one of the key components to achieving this goal is energy access. Some of the activities within this component have been the provision of market-aligned vocational training for youths on sustainable household energy solutions, and the delivery of solar PV electricity solutions for households and institutions and of fuel-efficient wood cooking technologies. The overall objective of these interventions is to establish a core of sustainable household energy business champions in the target areas.



Source : ICEED Nigeria



Solar technician training



Key achievements

- 140 male and female youths from among IDPs and host communities received market-aligned vocational training on design, installation, maintenance, sales and after-sales services of solar systems for households and institutions.
- 650 shelters that were reconstructed by the recovery programme were provided with solar home systems installed with support of the trainees. These were also distributed for free with the purpose of igniting demand in the region.
- 12 health and educational facilities were equipped with 5kVA solar energy systems. The vocational trainees were involved in the installation of these systems, enhancing their skills and visibility.
- Another 140 male and female youths were trained on fuel-efficient stoves production and sales. These entrepreneurs received mentorship and cash grants to expand their business and form cooperatives. These cooperatives are now the main suppliers of fuel-efficient stoves in the Northeast of Nigeria.
- 10,000 efficient cookstoves were produced by trained entrepreneurs and distributed for free to selected vulnerable beneficiaries. This pilot seeks to stimulate the demand for these efficient energy products, through marketing and awareness campaigns such as market fairs.



Innovative aspects & Drivers of success

- **An extensive baseline survey** was developed in order to assess energy use patterns and demand and to design the interventions accordingly.
- The project provided support to **set up a cooperative in each of the participant communities and to register these as legal entities**, enabling them to be prepared for future market interactions. For example, they could be able to bid for a stove supply tender, or they could access certain financial services.
- The cookstoves production centres were established to also engage in **continuous improvement in the efficient cookstoves design, as they were receiving local users' feed-back**. Cookstoves were modified to allow the use of both charcoal and firewood (considering the access to fuel in both rainy and dry seasons). They have also been testing and assessing other potential technologies, such as the conversion of household waste into briquettes for cooking.
- The vocational trainees were trained to be able to **spread their knowledge and train other potential entrepreneurs** in different regions without project support.

Stove Entrepreneurship Drives Income Diversification for Community Members

Solar Installation Brings Cash, Creates Better Conditions for New Solar Technicians



Main encountered barriers

- The region in which this programme operated faces several security threats so the project team must constantly monitor these risks.
- **Permission from local and national authorities** was required to operate. It has been key to align all project objectives with the governmental goals and to raise awareness within the different government agencies.
- There are **not many local micro-financing options available to the entrepreneurs SMEs**. The project team has been intending to engage banking institutions to offer these options.



The (enabling) environment

- The **EU recognised energy access as one of the key means to achieve the recovery** and resilience objectives of this programme, which positioned these energy interventions at the core.
- The **Borno State Government played a key role by recognising the need to mainstream provision of sustainable energy** in the rehabilitation and rebuilding plans while at the same time creating renewable energy livelihood opportunities. This enabled it give approval to the EU to embark on this funding.
- The local Energy and Environment Working Group based in Maiduguri, which plays an instrumental role, particularly in terms of information sharing and training
- The programme entails collaborative work with different consortia within the Northeast region of Nigeria which has **enabled the coordination of some activities and the sharing of lessons** with the ultimate goal of providing resilience and recovery.

'BORNO MAIDA - EARLY RECOVERY' EU Support to Response, Recovery and Resilience in Borno State

Capacity Building on the Production of Fuel Efficient Woodstove in Mafa LGA November 18



Source : ICEED Nigeria

Training on Cookstove production ICEED

»It is key to mainstream livelihood into energy access interventions. The inclusion of new technologies must be accompanied with the development of technical capacity to manage, maintain and – if possible – produce these technologies locally. This offers an opportunity for households to diversify their income and access to new sustainable economic activities.«

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CASE 

7. The Moving Energy Initiative – Kenya, Burkina Faso and Jordan

About the project 2015 – 2019

The Moving Energy Initiative (MEI), previously funded by DFID (now FCDO), aimed to use research, advocacy and evidence from pilot projects in camps to change the way that the humanitarian system looked at energy issues in its operations. MEI brought together the UK-based think-tank Chatham House, the energy NGOs E4I and Practical Action, the Norwegian Refugee Council (NRC) and UNHCR. MEI ran from 2015 to 2019, and it comprised various components including a large research focus and, in its second phase (June 2016 – March 2019), the implementation of activities on the ground in Kenya, Jordan and Burkina Faso. These activities included market development efforts and low carbon projects that had a component on providing energy to micro-enterprises. E4I led the work in Kenya, and Practical Action in Burkina Faso, working through local partners. MEI also operated in non-camp settings in Jordan – looking at energy efficiency for households and public institutions.





A refugee in the Kakuma camp (in Kenya), enjoys Bboxx-supplied solar-powered lighting at his shop. He now works late into the night.



Key achievements

- MEI looked with a **new lens at the energy paradigm in humanitarian settings** (understanding real needs, looking at economics, engaging with the private sector, integrating refugees, communities and local governments, bringing lessons from the last 10 years of off-grid development into the humanitarian sector).
- MEI undertook **extensive research and data collection** seeking to promote a better understanding of the refugees' energy needs, priorities and preferences (including households, enterprises and community services) which was also shared with private actors to help them better understand the market. One product of this study was the Prices, Products and Priorities report.
- **Energy for micro-enterprises was provided, either directly or through building local infrastructure.** For example, in the Goudoubo camp in Burkina Faso, MEI funded a solar-powered business centre for local enterprises; MEI also supported companies that could provide energy products. In Kenya, Bboxx was supported by MEI with a grant to start operations in Kakuma and organised marketing activities. Some of their systems were sold to small businesses.
- **Business training and mentorship** was provided to around 35 micro-enterprises using energy. The majority of these businesses were offering services by using solar power for phone charging and barber shops. Two of these businesses were retailing solar products. Impacts included 5 businesses diversifying into new products; 4 businesses opening up bank accounts; and the creation of 11 new jobs during the short intervention period.



Innovative aspects & Drivers of success

- MEI took a **different and flexible approach to adapt to each country context**. A learning brief comparing delivery approaches in Kenya and Burkina Faso can be found here.
- In Kenya (where the energy market was significantly more developed), MEI directly supported companies that could provide energy products.
- In Burkina Faso MEI focused on market development activities, mapping the market systems, understanding the diversity of actors involved and their role within the system, identifying barriers and the best ways to unblock them. MEI worked with the municipality to help create the conditions for companies to enter the camps, and for the hiring of distributors and last-mile sellers for solar technologies and cook stoves (e.g. by organising trade fairs and disseminating marketing materials to boost demand).
- MEI launched a **call for low-carbon proposals**, funding successful initiatives such as:
 - A business centre in Burkina Faso to support local businesses. Ownership of the centre by the local municipality was a critical success to ensure the sustainability and maintenance of the centre, especially as the security situation deteriorated, impeding MEI and partners to monitor the funded activities.
 - Solar gardens (run by Help – Hilfe zur Selbsthilfe) were created and provided for by solar pumping technologies, for the cultivation of vegetables and the creation of job for refugees.
 - A solar powered ICT centre was set up by Crown Agents in partnership with the local NGO SAVIC. It aimed to generate income through commercial services to support long term sustainability.
- The **adequacy and continuity of training provided** was vital to support micro-entrepreneurs. MEI provided one-on-one business and technical mentorship support. MEI worked in partnership with Action Africa Help International (AAH-I) to co-design the training modules, as AAH-I had previous experience in the camp regarding financial access and providing loans to displaced people.
- In the absence of sufficient time to establish a revolving fund for micro-entrepreneurs to expand their businesses, refugees received mentorship to develop and operate community-saving groups.



Main encountered barriers

- MEI's **time-frame was limited** to build a robust market and ambitious goals were set from the outset.
- MEI was composed of a relatively small core team, thus **relying on and supporting local organisations** (through e.g. the disbursement of loans) was important to allow more impact promptly.
- MEI was **unable to provide micro-enterprises with the financial resources they needed** to move their business forward given the short time-frame of interventions.
- Issues around **ongoing maintenance and sustainability of interventions** was at risk since some were not able to generate the revenues initially predicted to support ongoing operational costs.
- The **security situation in Burkina Faso** eventually became a problem to provide sufficient follow up and support on the operations.



The enabling environment

- Access to energy became a Sustainable Development Goal (SDG) at a time in history with the highest number of refugees since the Second World War, setting the scene to influence the importance of energy access within humanitarian settings.
- There has been **continued backing to build markets and support the private sector in Kakuma** refugee camp from EnDev, SNV, IFC, SCC and others. This has created additional opportunities for the private sector and supported the sustainability of MEI interventions. It has also increased market awareness generally for energy products.
- Having **effective local organisations to work with on the ground**, and support from organisations such as UNHCR, helped implementation to run smoothly.
- The **flexibility given by the donor enabled continuous adjustment of the activities** within the programme to integrate new learnings coming from the research component. More such research and innovation initiatives are needed.

»In market-based approaches, it is essential to identify points at which engagement with market experts may be required prior to action. This needs a basic level of market-aware decision-making. Many past lessons about the positive benefits of designing market-based approaches are still very relevant and should be considered in the design of future initiatives on the HE space.«

Mattia Vianello

Pioneering market systems for energy access in humanitarian settings – the case of Burkina Faso.



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CASE ●

8. Decentralised solar-powered refrigeration solutions for micro-entrepreneurs in India

About the project 2015-2019

Through a combination of private foundations funding sources, and in partnership with different local public and private entities, SELCO Foundation has been supporting the establishment of an enabling environment for entrepreneurs to adopt and use decentralised energy solutions to foster their micro-businesses throughout India. Under this programme, SELCO facilitated more than 50 solar refrigerators and some solar-powered agri-cold storage pilots across different contexts working together with several technology, financial, and community partners. These interventions in different typologies have resulted in the creation of a broader framework not only for appropriate technological models but also innovative financial and business models that are benefiting micro-entrepreneurs across the country, including those that are being forced to displace internally. SELCO has also established a cash-flow based financial models for these entrepreneurs who have been provided financial linkages from local financial institutions. In some cases, capital or interest subsidies were provided to fill in the gap for the entrepreneur to access the right technologies to strengthen their livelihoods.



Copyright: SELCO Foundation



Agriculture entrepreneurs storing their fruits produce in solar powered cold storage rooms in Khunti, Jharkhand.



Key achievements

- More than 50 entrepreneurs across different geographical, social and economic settings either enhanced their existing small businesses or started small businesses through decentralised solar-powered refrigerators.
- Affordable loans from regional co-operative banks, MFIs, NABARD (National Bank for Agriculture and Rural Development), and Self Help Group financing options have been unlocked to suit the profit earned by the entrepreneur from the additional income via refrigeration system.
- The solar refrigerators allowed entrepreneurs to innovate in terms of the products they could offer to their customers, boosting the development of local economies (from locally sourced products, dairy/fish/meat to flowers), and consequently increasing average income.
- Local technology suppliers have taken entrepreneurs' feedback into account to improve their technology to better suit their customers' needs.
- Entrepreneurs have driven some dissemination and awareness-raising campaigns demonstrating the benefits of decentralised renewable energy solutions within their communities.
- Technology and business models around solar-powered agri-cold storage rooms have been tested and have provided replicable models to the local governments to encourage replication and scale-up – (Link to more details on this intervention here). This has resulted in the potential blanketing of the region with more than 15 cold-storage solutions which is in the planning stage currently.



Innovative aspects & Drivers of success

- Apart from testing out different types of technologies, the project saw a **wide range of innovation in terms of the way solutions complemented the existing small businesses in low resource settings**, from a small store adding a solar fridge to complement their existing business to mobile units established near the busy highway toll booths to cater to the travellers.
- Local **home-based entrepreneurs were able to diversify their products** and get access to different markets through the availability of cold-storage.
- The project designed **tailored innovative financial and ownership models** for each of the supported entrepreneurs to boost their businesses, instead of standardised solutions. Working with local financial actors has enabled the collaborative design of appropriate asset-based financing models, adapted to the cash flow of the businesses.
- To mitigate the negative impacts of the COVID-19 situation, SELCO has supported entrepreneurs to sustain their financing models and acted as intermediaries with the banks. Additionally, SELCO has provided opportunities for the micro-entrepreneurs to **diversify their businesses to cater to the different changing demands during the COVID-19 situation**.
- **Partnerships with different actors such as technology partners**, training institutes, local NGOs, and financial partners have been key to ensure the appropriate support is provided for the success of entrepreneurial activities.
- The design of **decentralised energy solutions has been advantageous particularly** due to their portability in situations where the population in a transitory stage or there might not have land rights.
- **Previous interventions targeted at solar lighting technology distribution brought awareness** to the communities and arouse curiosity about other solar technologies (solar power refrigeration). Word of mouth between entrepreneurs and the support from SELCO's Geography teams and grassroots NGO partners have been a success for the identification of new demand-driven opportunities.



Main encountered barriers

- **Technology awareness is critical:** Some of the issues were related to the lack of clear information on the technology, operation and maintenance from enterprises providing the technical solution to the end-users. For instance, in some cases, refrigerators were kept outside the stores to be highlighted and attract customers, but this made them lose efficiency; or refrigerators were being frequently opened and closed which increases the energy consumption.
- It was also essential to ensure **local servicing and maintenance network for quick troubleshooting**, as the failure of the refrigeration services could result in high losses for the entrepreneur (especially when storing perishables).
- Designing a **commercially viable financial model is one of the most challenging issues for entrepreneurs**, as the sales depend on the availability of products as well as on the seasonality. Entrepreneurs have to innovate in terms of products range constantly.



The (enabling) environment

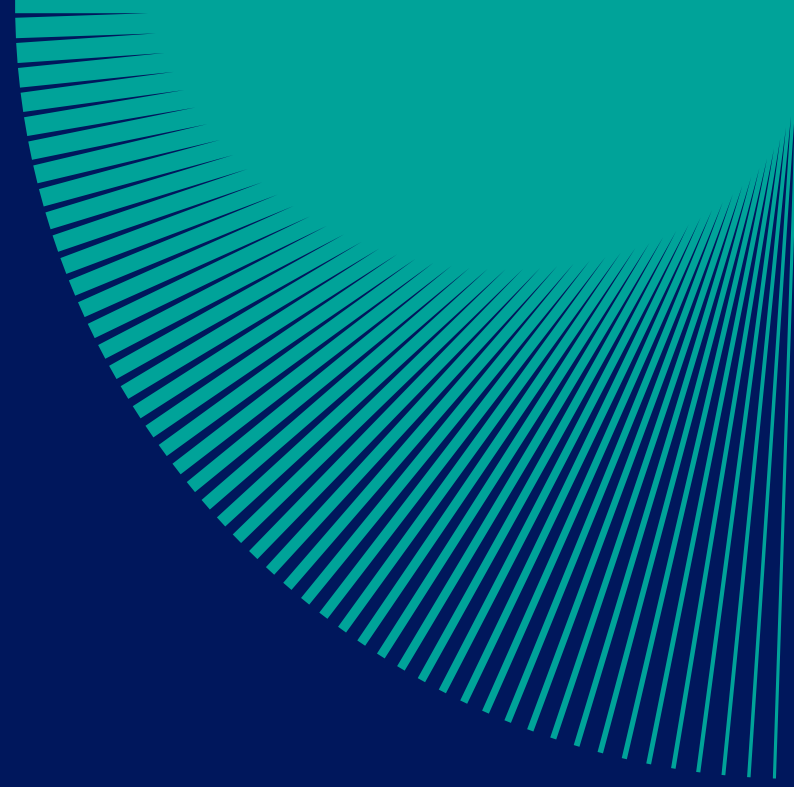
- Decentralised solar energy powered refrigeration systems that are used for income-generation activities come under the purview of different financing schemes of the government and financial institutions. The cooling solutions bought as a livelihood option by the unorganised sector of small restaurants, local eateries, mobile canteens, fish and meat vendors can be categorised as lending towards MSME as it is essentially a capital investment. Different policies were leveraged on this. Also, other social structures such as Self Help Groups (SHGs) were leveraged while availing financing and market access via local financial institutions.
- The availability of grassroots organisations to partner with has been vital to ensure the long-term sustainability of entrepreneurial initiatives as well as to support the entrepreneurs on the ground.

Decentralised solar refrigeration solutions have the potential to increase income for small entrepreneurs without investing in an additional human resource or extra efforts. The business models can be highly effective if designed being customised for the social, geographical and local business environments that the entrepreneurs cater to, and to satisfy the need for cold product value chain.



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**Challenges,
opportunities and
recommendations**

Challenges

Partnerships, multi-sectorial coordination and local collaboration

- Short timelines of projects and changes in funding priorities impacting the project results & the progress towards laying market foundations
- Mistrust triggered by past programmes that did not deliver on promise
- Unclear expectations regarding subsidies
- Security threats/ Access to camps/settlements
- Permission from local and national authorities to operate within the camps
- Risk of ongoing maintenance and sustainability of interventions

Enabling policy environment

- Regulatory restrictions for FDPs re right to work, free movement, land ownership, businesses permits)
- Misleading hope of resettlement which might reduce FDPs motivation to invest on energy products or to start micro-businesses
- Regulatory challenges for companies to enter the market in displacement settings (obtaining a license to operate in these settings and hiring locals as sale agents)

Holistic livelihood development programmes

- Moving away from free distribution interventions to market-based approaches
- Short time-frame projects might fail to support the development of local economies and to build up awareness on both the demand and supply side (awareness on the energy-related livelihood opportunities and on the use of clean energy products).
- Potential underestimation of the time and resources required to build key relationships that would enable the development of holistic programmes, and of the support and training needs that will be required to promote self-sustained businesses in displacement settings

Figure 3: Key challenges & recommendations

Partnerships, multi-sectorial coordination and local collaboration

- Unified approach (e.g. re subsidised modalities); multi-stakeholder involvement & commitment
- Partnerships between humanitarian and development sectors and greater coordination across sectors
- Maximising synergies and complementarities of interventions
- Working with local entrepreneurs & refugee business leaders
- Partner with local actors that can support entrepreneurs in the long run
- Greater consistency in the messages, promises and expectations

Enabling policy environment

- Align project objectives with the governmental goals
- Advocacy within government agencies regarding restrictions hampering viability & success of entrepreneurship, permits to access camps, etc.
- Advocate national policy environment that incentivises private sector (timing, regulations, permits);
- Help companies understand how camp management processes work and to enter these markets
- Policy environment that supports entrepreneurs, linked to development & economic growth strategies. Energy for micro-enterprise integrated in HE policy documents
- Programmes offering tailored solutions that are adapted to potential local

Holistic livelihood development programmes

- Design programmes for medium-to-long term intervention, considering scale-up possibilities from the outset and allocating appropriate resources to fulfil training and support needs
- Practitioners establishing direct engagement with potential financiers to agree on long-term investments
- Source the data necessary to assess market potential, and coordinate data collection across different programmes
- Engage private sector actors and align project concept and deliverables to their strategic plans
- Introduce market-based approaches in a phased method to build up consumers' acceptance
- Design activities that benefit both host communities and displaced people interchangeably

Challenges

Access to Finance

- Lack of appropriate financing options for FDPs to purchase energy-related products and services
- Undersupply of affordable and high-quality energy products
- Lack of financing solutions made available for businesses led by FDPs
- Unavailability of long-duration risk-sharing mechanisms that enable learning and adaptation
- Risk of FDPs flight and mobility often prevents solar companies from offering long-term PAYGOs
- Limited awareness and technical and business capacity from MSMEs to adopt PUE
- Lack of supportive legislative environment
- Deficient connectivity and infrastructure to enable PAYGO of solar products, and often time limitations for refugees to connect to mobile accounts

Market activation, awareness and marketing campaigns

- Lack of awareness and education on quality solar products
- Limited awareness of livelihood opportunities that could arise from energy-related businesses
- Adoption of some clean energy products, particularly of clean cook stoves, often require behavioural change and education campaigns
- Deficient trust on certain energy products in cases when FDPs had previous negative experiences utilizing low-quality products
- Energy products designed without catering for the preferences and desires of FDPs

Control of market distortions

- In-kind distribution might bring market distortions as an unintended consequence
- Potential unfair competition as some companies which harness economies of scale can enter the settlements with promotional prices for their energy products (or selling sub-quality products) at a lower price than the offered by local solar kiosks
- Subsidized initiatives with unclear priorities, lack of transparency or communication or raising expectations in vain could make investment decisions for FDPs households difficult

Figure 3: Key challenges & recommendations

Access to Finance

- Encourage and support local financial institutions to develop loan products targeting FDPs
- Test new support mechanisms for extending repayment period, such as PAYGO default insurance schemes
- Tailor financial products to the affordability of entrepreneurs (e.g.: considering potential seasonal sales fluctuations)
- Support and demonstrate increased connectivity devices ownership to entice Mobile Network Operators to expand mobile money infrastructure
- Ensure continued support and innovative approaches addressing private sector uncertainty to enter the market

Market activation, awareness and marketing campaigns

- Complement marketing efforts with awareness-raising to increase adoption of quality clean energy products (localising sales and services centres close to the consumers, offering trial periods or rent-to-own schemes)
- Sensitising FDPs and host communities of the spectrum of livelihood opportunities that could arise from energy-related businesses
- Innovative and tailored marketing strategies designed in a participatory manner
- Integrate feedback from demonstrations and testing of products

Control of market distortions

- Discuss priorities and improve coordination among all actors in the system regarding pricing models, free hand-outs and subsidies, harmonising the humanitarian sector approach
- Facilitate coordination between micro-businesses and the private sector to enable synergies instead of competition
- Establish baseline quality standards
- Involve private sector at the assessment/design stage, and consider data and market potential assessment as an integral part of the design
- Explore possibilities for project vouchers for higher-priced local products

Challenges

Monitoring and impact assessment

- Limited time-frames of projects and evaluations shortly after completion, missing the opportunity to learn about the sustainability of interventions in the long run
- Monitoring data collected using non reliable or rigorous methods
- Narrow definition of monitoring indicators, lacking a cross-sector perspective to assess the wider impacts of PUE

Gender-related interventions

- Gender aspect being incorporated as an isolated add-on instead of being an integral part of the project or programme design
- MEL framework lacking gender-related assessments
- Designing or selling energy products that do not cater for the needs or preferences of both women and men
- Excluding women from employment or entrepreneurship opportunities due to a lack of flexibility in terms of work arrangements

Long-term vision for self-sustained businesses

- Programmes looking at the technology provision in an isolated manner and missing the opportunity to assess broad and long-term positive externalities
- Narrow perspective that misses out the possibility to boost the mushrooming of secondary enterprises that can arise from energy-related micro-enterprises
- Limited data available regarding demand, supply and market potential -or challenges to collect that data-, preventing entrepreneurs or supporters from making informed business decisions

Figure 3: Key challenges & recommendations

Monitoring and impact assessment

- Allocate appropriate MEL expertise and resources from the design phase of projects
- Enable medium-to-long term assessments of the sustainability and impacts of interventions
- Design flexible and adaptable interventions, to allow potential adjustments and identify opportunities for improvement and scale-up
- Engage the affected population in the process of setting indicators and definitions of success
- Cross-sector partnerships to ensure the necessary scope for effective monitoring (e.g.: academic partnerships)

Gender-related interventions

- Design entrepreneurship programmes that target needs for entrepreneur women targeting both practical and strategic needs to design gender transformative programmes
- Addressing gendered preferences on the type of technologies and their use
- Ensure appropriate targeting of interventions for both women and men through holistic approaches (e.g.: support women to harness their newly-available free-time due to adoption of efficient cooking on different productive activities)
- Engage the entire household in energy transformative behavioural training and campaigns
- Ensure appropriate gender expertise is included in project and MEL framework design

Long-term vision for self-sustained businesses

- Understand the informal economy, working directly with local entrepreneurs and FDPs business leaders
- Adopt a demand-pull rather than supply-push approach, aligning new programmes with existing independent solutions and host government policies
- In-depth understanding of the training, coaching and mentorship needs
- Facilitate the linkage of local entrepreneurs with well-established energy companies and local distributors, which can be facilitated by adopting a participatory market systems development approach (PMSD)
- Assess the unit economics of each business case and transparently present them to the local entrepreneurs

Each of the case studies presented in Section 2 have highlighted a range of barriers encountered that need to be overcome in order to provide conditions for successful micro-enterprises dealing with energy-related activities in displacement settings. Several common challenges can be observed; early recognition of these issues provides an effective platform for any future interventions aimed at improving the prospects for such micro-entrepreneurs.

On the basis of the challenges identified, we have considered responses that will be most effective to achieve lasting positive benefits. The proposed responses described in this section, and summarised in the 3 boxes, are recommended as practical steps that can be undertaken to effectively facilitate the future development of energy micro businesses in displacement settings.

1.

Enabling environment

- Coordinate with actors outside of the Humanitarian Energy field using the Humanitarian cluster system (other energy users and government)
- Harmonise pricing models through coordination (free hand-outs, subsidised, unsubsidised programmes, etc.)
- Align project objectives with governmental goals (advocacy and capacity building)
- Lobby for a national policy environment incentivising the private sector and facilitating business activities among displaced people
- Support the private sector to enter camps/settlements
- Involve the private sector at the assessment/design stage
- Adopt an inclusive approach, including host communities as clients and/or providers of energy technologies and services
- Establish baseline quality standards (Verasol standards)
- Provide a long-term vision from project design and all stages of implementation.

2.

Market creation

- Work with local lenders to develop finance products adapted to local conditions
- Partner with grassroots business developers supporting entrepreneurs
- Ensure continued support and innovative approaches address private sector uncertainty to enter these displacement settings
- Engage with the finance sector to understand local market conditions and investment planning
- Adopt joint metrics in HE projects to assess market potential
- Raise awareness and marketing efforts to increase acceptance and adoption of quality energy products and services for all HH members
- Integrate feedback from demonstrations and testing of products to build trust and engagement
- Facilitate market linkage of local entrepreneurs with energy companies and local distributors
- Assess and present different proven business models to local entrepreneurs and financiers

3.

Project implementation

- Evaluate impact for some time beyond project closure to determine the sustainability of interventions
- Negotiate flexible outputs with donors (i.e. number of successful business cases instead of number of energy kiosks)
- Implement through consortia (businesses, NGOs, gvt, UN)
- Engage the affected population in the process of setting indicators and the definition of project success
- Design entrepreneurship programmes that target the specific needs of women entrepreneurs
- Address women's energy technology/service preferences
- Ensure appropriate targeting of interventions for both women and men (e.g. time saved) – aim for holistic approaches rather than technology-focused
- Analyse the informal economy to answer the needs, ensure awareness and the engagement of entrepreneurs (use demand pull rather than supply push)
- Understand training, coaching and mentorship needs (manage, maintain, repair, market etc.)



Partnerships, coordination and collaboration

Energy-related activity for micro-enterprises in displacement settings (and their host communities) is part of activities undertaken by humanitarian organisations focused on a range of related issues including livelihoods, WASH, food security, environment, education, shelter and rehabilitation. **Challenges and solutions should be shared** to maximise their value and avoid repeating ineffective measures.

For many humanitarian activities, **energy access could be prioritised as an essential component**, bringing greater focus on associated benefits. For instance, supporting the development of livelihood activities through productive use of energy; or renewable energy enabling the provision of WASH and health services by humanitarian agencies.

This means that there is a vast potential for building partnerships and collaborations, and for sharing experiences and lessons learned among different actors including **humanitarian and development agencies, local and international NGOs, local and national governments and private sector**. Coordination among these actors is often key for the project success, particularly for interventions aimed at achieving a **transition towards sustainable market-based energy access models**.

There is great value in finding ways to **harness synergies among partners**, including allowing the project designs to build upon what has been done and learned in the past, to access and use existing datasets, and to share lessons that are relevant or transversal for various sectors.

Coordinating goals and objectives with other initiatives and implementing partners is critical to achieving maximum value from the resources available and so to multiply the positive results. Multi-stakeholder involvement is vital to make the transition to a sustainable market-based energy access model in displacement settings and host communities. All **stakeholders must be willing to commit to achieving the market-based change**.

»Development partners should work better on how to manage refugees' expectations for resettlement (which has an impact on the desire of refugees to get involved in relevant business opportunities). It's key to co-ordinate different projects and programmes because there are many partners collecting data, and that generates expectation. The projects must keep refugees informed and demonstrate constant progress so that the community maintains the trust and engagement «

EnDev Uganda Energy kiosk project



Partnerships, coordination and collaboration

Coordination across sectors to maximize synergies and complementarity of interventions: When designing initiatives for microenterprises, **close coordination with the livelihoods sector is key.** This involves practitioners identifying the key livelihood actors, assessing ongoing initiatives and designing joint programmes that can yield income-generating activities related to energy provision.

Greater consistency in the messages, promises and expectations raised by humanitarian agencies, NGOs and host governments is required in order to build trust and engagement among displaced populations. This highlights the need for close coordination amongst providers of energy-related interventions, but also close links with other sectors.

The Humanitarian-Development nexus needs to be strengthened as common approaches need to be found, especially as related actors often operate in the same geographies and target areas.

Partnership with grassroots business development organizations that can support entrepreneurs: Local input is necessary at an early stage to ensure full understanding of the condi-

tions within the target communities and to identify opportunities for micro-enterprise development. Such initiatives could employ FDP to be directly involved with the implementation aspects such as preliminary data collection, local training and awareness creation; while other programme activities could be led by local subcontractors who are deeply familiar with the local settings.

Implementing programmes through the formation of consortia, grouping a combination of institutions with diverse and complementary expertise (e.g. development or humanitarian NGOs, research/policy advocacy institutions, market development experts, etc.)

Early and constant coordination with local and governmental agencies is key, not only to coordinate implementation of activities in displacement settings but as a strategic opportunity to build awareness and capacity. This can result in willingness by local governments and municipalities to own and maintain infrastructure such as business centres (especially more so when security constrains the access to the settlements) as well as to encourage replication and scale-up.



Enabling policy environment

Refugee policies established by the host governments influence the viability and success of micro-enterprises in displacement settings.

If there are any regulatory restrictions such as regarding the right to work, free movement, land ownership, businesses permits and mobile payments, these would add more barriers to the development of local enterprises, in addition to the market barriers. Another factor that could affect an entrepreneur's motivation to start local businesses is often the **misleading hope of relocation**, which might reduce their willingness to engage in long-term livelihood activities such as establishing energy-related micro-enterprises.

Companies that would like to enter the market in displacement settings (for example, to sell solar products or electric appliances, or to build micro-grids) also often face several other **regulatory challenges**, such as obtaining a license to operate in these settings and hiring locals as sale agents, among others. Public programmes that include the free provision of energy systems also **distorts the market** and deters private sector involvement.

Some countries have already developed or may be intending to develop core policy documents on the HE sphere¹⁷ and it would be impactful if programmes and implementing partners could **advocate for the addition of considerations specifically related to the energy and micro-enterprises nexus**, and their enabling policy and regulatory environments.

On the other hand, it is key that programmes aimed at supporting the emergence of energy markets and local enterprises are **designed to benefit host communities and displaced populations interchangeably**. These flourishing markets can promote integration and social cohesion within these communities, in addition to the spread of new local micro-economies.

»The refugee policies in Uganda, such as the right to work and own land and the freedom of movement, facilitate the resettlement efforts and support the market emergence and the integration with host communities.«

SAFE project Uganda

»Refugees fear to operate businesses in the host community due to taxes and other operating costs. However, through the RE4R project, we are continuously sensitising refugees on the advantages of integrating with the host community to expand their market.«

RE4R team

¹⁷ Other groups of displaced (IDPs) are citizen of their displacement place



Enabling policy environment

Align project objectives with government goals, to help integrate advocacy activities and capacity building to encourage a supportive policy and regulatory environment for market-based approaches and opportunities for micro-businesses.

Enabling a national policy environment that incentivises the private sector: Private sector actors are unified in their request for ending the free handover of energy products, Results-Based Financing (RBF) mechanisms, or incentive systems that supports targeting the hardest to reach areas (such as refugee camps and host communities), including potential subsidies.

Support the private sector to enter camps/settlements by, e.g. helping companies understand how camp management processes and programs work. Efficient and agile permission approvals by the governmental agencies are essential to encourage private sector actors to carry out market-development activities to build up markets.

Enabling policy environment to support entrepreneurs, linked to development and economic growth policies/strategies: there is a need for humanitarian and governmental agencies to integrate the energy and micro-enterprises nexus into the emerging policy documents on humanitarian energy sphere, to ensure enabling policy and regulatory environments. On the other hand, refugees should continuously be informed by humanitarian agencies regarding their likelihood of relocation to ensure that entrepreneurs' or customers' willingness to invest is not hampered.

Support for programmes with tailored solutions that are adapted to the potential local constraints, such as portable solar kiosks that can be established by refugees even if they do not have the right to own land in their host countries.



Holistic livelihood development programmes

There is a need to move away from free distribution interventions that see displaced people as aid recipients, towards market-based approaches that consider them as consumers of goods and services. A next step is to support FDPs to set up their micro-enterprises, allowing them to achieve independence by improving their business income-earning opportunities. This process involves several related steps, including:

- Ensuring the local economic environment is conducive enough for market-based approaches targeting displaced in general and refugees¹⁸ in particular
- Building up awareness of the livelihood opportunities that can be harnessed through energy products or services.
- Supporting entrepreneurial mind-sets within the displaced communities.
- Creating awareness on clean and high-quality energy products and related services to develop markets.
- Supporting all stages of development, including training, financing, market access, mentoring and monitoring.

These programmes must be seen as **holistic livelihood development approaches** and designed accordingly, using inclusive approaches¹⁹. When designing new initiatives, it is important to consider not only the timeframe of projects but also their flexibility/adaptability to unfamiliar local conditions. Again, collaboration across local partners, governments, and businesses is vital to ensure that the programmes build upon work that has already been done. **Relationship building is time and resource-intensive**; therefore, sufficient time has to be allocated for this purpose.

»The project implementation time was not enough for supporting the up-take of energy businesses, developing viable business models and linking Ugandan energy enterprises to the settlements. A balanced approach of short/medium-term and long-term responses is needed to ensure sustainability (setting up structures in the very short-term that will generate income and employment in the medium-term and might contribute to long-term market development).«

EnDev Uganda Energy kiosk project

18 https://infohub.practicalaction.org/bitstream/handle/11283/620670/Policybrief_7_web_updated.pdf;jsessionid=171E94D-D34D292FA5AA4EBB6978E4077?sequence=1

19 Currently, GIZ is supporting the development of the Sustainable Energy Response Plan for Refugees and Hosting Communities (SERP) which is the core policy document for the integration of refugee issues into national policies in the energy sector. It is part of GIZ's support to the implementation of the Global Compact on Refugees / Comprehensive Refugee Response Framework. The SERP will enable the Government of Uganda to run a "whole of Government approach" to energy issues



Holistic livelihood development programmes

Longer-term vision for project design.

Any support projects/programmes for energy entrepreneurs should be designed for medium-to-long-term interventions and consider scale-up possibilities from the outset. It is essential to avoid underestimating the support and training needs that will be required to promote self-sustained businesses in displacement settings. These factors must be considered by donors and implementers to allocate resources and time accordingly.

Direct engagement with potential financiers

should be established by practitioners to increase understanding of the local conditions and agree on the longer-term investments that are needed to pilot PUE interventions necessary to generate sufficient revenue to pay off investment costs.

Source the data necessary to assess the market potential, and to adapt to changing local circumstances. **Coordination of data collection across different programmes** would also be vital for the sector (e.g. have certain metrics that are being tracked across all HE programmes). Data should form an integral part of the design of any market-based approaches, and the **engagement of the private sector is key from the assessment/design stage**, rather than later to ensure the right support is provided to engage them.

Private sector engagement: projects following a market-based approach need to have a longer duration that fits into the strategic discussions and plans of private sector actors. Close interaction between project implementers and private sector actors needs to be in place to implement market-based solutions. It is challenging to align private sector interests to the project concept and deliverables. To ensure acceptance from consumers, market-based approaches (with development partners) should be introduced in a phased approach.

Inclusion of host communities: When addressing the energy needs of FDP, and when encouraging the creation of a local economy, these activities must benefit both host communities and displaced people interchangeably.²⁰ Interaction with the host communities is required to ensure that any intervention brings clear advantages, thereby avoiding any resentment or disruption.

²⁰ <https://www.rsc.ox.ac.uk/publications/cash-transfer-models-and-debt-in-the-ka-lobeyi-settlement>



Access to finance

End-user affordability of energy systems and access to finance are **the greatest challenges in displacement settings**. Even when there is purchasing power and willingness to pay, as in KIVA's experience in the sector²¹, **appropriate financing solutions are often not available** for the bottom of the pyramid. Besides the legal limitations faced by displaced people, which need to be carefully addressed, the main barriers to FDPs for establishing an enterprise are often not legal but financial²². Two key issues need to be addressed when looking at **financial support for micro-entrepreneurs**:

- The availability of financing options for FDP to purchase the energy-related products and services offered by the local micro-entrepreneurs, coupled with the availability of affordable and, when possible, locally made energy products.
- The availability of financing solutions for those businesses led by FDPs and members of their host communities, that lack capital to purchase sufficient stock or initial investment capital up-front.²³

As expressed by the MBEA project team, various opportunities to support refugee households with low purchasing power exist (e.g.: cash-based initiatives for energy that target diversification of fuel supply can potentially unlock access to cleaner cooking solutions). However, any access to finance approach needs to take into account the **financial health of refugees and avoid increasing debt levels**²⁴. High-quality products are also essential: a shorter longevity of the product compared to the tenure of the loan will most probably result in repayment delinquency.

Penetration of mobile money platforms offer a vast opportunity to facilitate and promote PAYGO of solar products, provided that not only connectivity and infrastructure is set in place, but refugee's registration issues, such as time limitations to connect to mobile accounts, are tackled altogether.

The private solar sector is still risk-averse to establishing a presence in displacement settings. Default risk is still yet to be resolved: **A long-duration risk-sharing mechanism** will ensure learning and adaptation and eventual approach to resolving risk in this market. Key lessons can be learned from the USAID Power Africa's De-Risking PAYGO SHS in the Uganda Refugee Settlement project. **Default risk could also be reduced by focusing on PUE**, provided that business cases are profitable and appropriate end-user financing options are tailored to FDP needs and the nature of their businesses.

»Less than 5% of buyers can use mobile money accounts. Even if mobile network connectivity is good in the camp, the mobile money agents are located quite far from the site (30 minutes' drive). For this reason, customers opt to make cash payments in nearby service centres, which is a less efficient process.«

AMPERE project

21 Energy access and forced migration – <https://www.routledge.com/Energy-Access-and-Forced-Migration/Grafham/p/book/9781138543386>

22 https://snv.org/cms/sites/default/files/explore/download/mbea_external_report_final_for_uploading.pdf

23 <https://www.rsc.ox.ac.uk/publications/cash-transfer-models-and-debt-in-the-ka-lobeyi-settlement>

24 <https://www.unhcr.org/innovation/internet-mobile-connectivity-refugees-leaving-no-one-behind/>



Access to finance

Work with local lenders: encourage and support local finance institutions (e.g. with risk-sharing mechanisms), to develop loan products targeting FDPs. Appropriate payment schemes should be offered, such as paying in instalments, PAYGO, or schemes offered by Village Savings and Loan Associations (VSLAs) and cooperatives. This support could come from programme implementers but also from humanitarian and development agencies as well as governments.

New support mechanisms for extending the repayment period should be tested, with awareness-raising for long-term credit purchases, especially for larger PUE systems. The risk of FDP flight is still a concern for solar companies, making it difficult for them to offer more than a 12-month PAYGO plan. The testing of new approaches is therefore required to provide microenterprises with the upfront finance necessary to start any new businesses. Financial products should be tailored to the affordability of entrepreneurs, considering potential seasonal sales fluctuations and granting some flexibility for the payback of loans. Some options to consider may be PAYGO default insurance or related financial mechanisms to help de-risk relevant energy systems that are unfamiliar to investors; building on past/existing conditional energy voucher schemes in humanitarian settings can also have significant impact.

Demonstrate ownership models for new devices, helping to motivate expansion:

increased device ownership is key to entice Mobile Network Operators to expand mobile money infrastructure. For example, UNHCR Uganda, as part of its connectivity strategy, is looking at increasing connectivity devices ownership with the aim of facilitating market development in displacement settings.²⁵ Longer-term and higher investments in connectivity devices and infrastructure network by humanitarian agencies and host governments would enable programmes to pilot PUE interventions, which can generate the revenue required to pay off the systems.

Ensure continued support and innovation to address private sector uncertainty to enter the market: tackling barriers that hamper consumer repayment, such as poor infrastructure, the availability of agents to facilitate mobile money services, and the inability to monitor refugee customers due to lack of related data is vital to encourage private actors to serve the market.

25 Paying for Darkness: Strengthening Solar Markets for Refugees in Uganda



Market activation, awareness and marketing campaigns

One of the most common consumer constraints remains the **lack of awareness of quality solar products**, as recently illustrated in the “Paying for Darkness” market assessment²⁶. Consequently, communication strategies to encourage robust and adapted behaviour change need to accompany the installation and distribution of solar systems.

Awareness and education of quality solar products

need to be intensified as direct marketing activities are also being rolled out. This involves interaction with the community at all levels, with attention to informing the heads of household (often men), the main users of clean energy (often women) and the children who can represent potential drivers of change.

In recent years, the introduction of clean cooking technologies to remote communities has lagged behind the acceptance of solar products, which means that there remains a clear need to motivate **behavioural change**. The use of open market demonstrations, as well as billboard posting and radio messaging²⁷, can have a significant impact in terms of increased awareness and the generation of positive feed-back for potential users. These campaigns should be accompanied, when possible, by awareness-raising on nutrition, food security, indoor air pollution and water-pumping since these **links to food, water and health issues** can often provide more direct motivation for clean energy access.

Demand activation and awareness-raising activities remain key, not only to transmit the benefits of clean energy solutions but also to **sensitise refugees and their host communities of the spectrum of livelihood opportunities** that could arise from establishing businesses related to the sale of energy products or services. The increased potential for productive use of energy activities can often be the stimulus of greater demand for energy access.

»We found in Kakuma that 44% of surveyed businesses will use solar for lighting purposes while larger appliances are still powered by diesel, except a few fridges that used both solar and diesel.«

MBEA project

»Recruiting sales agents from both the refugees and the host community reinforces the concept of providing equal energy access opportunities for both the refugee and host communities.«

MBEA project

26 <https://www.cleancookingalliance.org/resources/557.html>

27 https://www.gogla.org/sites/default/files/resource_docs/pricing_quality.pdf



Market activation, awareness and marketing campaigns

Complement marketing efforts with awareness-raising to sensitise and increase acceptance and adoption of quality clean energy products: support the activation of markets so that the local enterprises can flourish and grow within an environment of growing demand for these products and services. Trial periods for the household members, or rent-to-own schemes can have positive impacts as the users experience the benefits of quality products. Localising solar sales agents and service centres as close to the consumers as possible is pivotal to provide first-hand consumer service and education to both the refugee and host communities, building consumer trust.

Design awareness campaigns that target potential entrepreneurs: programmes could work towards sensitising refugees and their host communities of the spectrum of livelihood opportunities that could arise from establishing businesses involved with the sale of energy products or services. These can range from

offering solar phone-charging or establishing solar kiosks with multiple facilities, to the provision of welding services. This allows communities to move from a purely subsistence oriented existence towards service-based livelihoods, and a range of micro-economies can arise from the associated business creation.

Design and tailor innovative campaigns in a participatory manner: programmes can involve refugee entrepreneurs in the design of marketing strategies and tailor those according to what would have a high-impact within their communities. For example, interactive voice response, or open market demonstrations (even including theatrical performances) have proven successful to attract attention.

Integrate feedback from demonstrations and testing of products: Host activities that build genuine connections, develop trust, and show communities that partners will act on their feedback.



Control of market distortions

For businesses to thrive, some aspects of the demand side can be co-ordinated by different institutions to reduce risks for local entrepreneurs in what is a very delicate commercial environment. One of the aspects that most affects the demand and willingness to pay is a result of the **in-kind distribution** by various humanitarian agencies or other implementing partners. In many cases, especially when looking at recently established camps and settlements, the distribution of basic energy products is essential to support the rehabilitation of the most vulnerable. However, this often brings future market distortions as an unintended consequence, especially when the existence of these settlements become protracted.

Another factor that triggers market distortions is the **potential of unfair competition**. For example, some companies that can harness economies of scale could intend to enter the settlements with promotional prices for their energy products, **or companies selling sub-quality products**, which might be lower than the lowest prices that, e.g. local solar kiosks can offer. Although the availability of lower prices is beneficial for the communities in the short-term, the success of the local enterprises might bring even more additional benefits in terms of the activation of local economies. Vouchers for high cost and quality local products should be explored further.

To avoid detrimental long-term impact from market distortion, it is important for the **camp management and implementing agencies to agree on a common approach** and know the impact of different pricing models²⁸. All measures considered by external donors or suppliers should be carefully reviewed in advance by the providers to ensure that any negative market distortion is avoided. **How subsidies are applied is critical to the long-term sustainability of any energy access intervention**. Subsidized initiatives should have very clearly-defined criteria for the selection of their beneficiaries, should be transparent, ensure appropriate communication, and be cautious with raised expectations. This type of intervention must also be coordinated with local partners working on HE through a market-based approach. Unclear priorities make investment decisions for refugee households difficult.

28 <https://www.lightingglobal.org/news/iec-adopts-lighting-global-quality-standards/>



Control of market distortions

Discuss priorities and improve coordination among all actors in the system: There are usually different pricing models that can be found across humanitarian settings, e.g. free hand-outs, subsidised, unsubsidised programmes, which reinforces the need for the sector to harmonise their approach. To be able to implement market-based sustainable strategies, it is necessary for humanitarian agencies, host governments and programme implementers to discuss priorities, up-coming activities and rules for implementation and have an effective coordination structure in place.

Facilitate coordination between local micro-businesses and external private sector operators to enable synergies instead of competition. The aim is to find win-win approaches for the external private sector companies (who can help to reduce costs), local entrepreneurs (with greater market awareness) and the communities. Effort should be committed by support programmes to identify current and potential micro-enterprises in the displacement settings, and potential private sector operators with interest in these local markets. Bringing them together to discuss options for partnership can assist in co-ordinated activity and provide new opportunities for all involved.

Establishing baseline quality standards is essential for market-based approaches. This is critical to build confidence, ensure consumer health and protection and reduce market distortions. An influx of poor-quality products, usually at lower-than-market prices, will negatively distort the market. The Lighting Global/Verasol program has developed quality standards and test methods for solar products upto 350W and, in June 2020, these became an official IEC technical specification known as IEC TS 62257-9-8²⁹. Many countries have already adopted (on a mandatory or volunteer basis) the Lighting Global/Verasol Quality Standards, and it is expected that more will follow. Furthermore, many RBF schemes only disburse incentives for Verasol approved appliances. This must be included in project design to allow entrepreneurs to procure products or receive RBF incentives.

Data should form an integral part of the design of any market-based approaches, and organisations must also revise strategies once new learnings emerge. Source the data necessary to assess the market potential to implement appropriate programmes for potential micro-entrepreneurs successfully. For market-based programs, **involve the private sector at the assessment/design stage**, rather than later (ideally to be part of a consortium) to ensure the right support is provided to engage them.

29 <https://storage.googleapis.com/clasp-siteattachments/CLASP-MarketSurvey-2020.pdf>



Monitoring and impact assessment

Reliable and rigorous Monitoring, Evaluation and Learning (MEL) methods do benefit not only particular programmes (by enabling potential adjustments and identifying opportunities for improvement and scaling-up), but also generate new knowledge that can help other implementers and inform future project design. Given that impacts of access to energy are usually seen on the medium term, **medium-to-long-term impact assessments** allow to understand better what approaches are successful in supporting the development of energy-related micro-enterprises in displacement settings, **what the drivers for sustainability are** and what the variables that can affect these businesses are. Limited time-frames of projects and evaluations shortly after completion remain a challenge to learn about the sustainability of interventions in the long run, especially when targeting micro-businesses.

Cross-sector partnerships need to be improved in order to ensure the necessary scope for effective monitoring. More rigorous M&E methods should be employed to **strengthen data reliability** (for example, academic partnerships and sensor validation of stove impacts).

PUE will have an impact beyond the energy sector, so a cross-sector perspective is required. Within the M&E phase, a project with a narrow definition might restrict indicators only to measure, e.g. job creation or income, while a project with a broader definition would probably measure wider aspects of the PUE impact. This is a topic that is has been further addressed under EnDev PUE L&I knowledge product.

»The implementation of energy kiosks is a medium-term task as it implies a longer-term accompaniment with regards to monitoring of sales, training and coaching, development of financing schemes, linking energy companies to the kiosks etc. Kiosk approaches should be done only when technical expertise can be provided.«

Market-based Energy Access in Refugee Settlements and Host Communities via solar-powered energy kiosks project, EnDev Uganda



Monitoring and impact assessment

Provision to evaluate impact and sustainability:

for any new intervention to support energy micro-enterprises, there is a need to assess the medium-to-long term impacts and sustainability of interventions, in addition to evaluating results immediately after completion. The timeframe of initiatives should take this into account, which needs to be acknowledged by donors to allocate resources and time. Clear MEL frameworks should be established and appropriate MEL expertise and resources must be allocated in the design of new projects, including expertise that can engender the MEL framework from the outset.

New interventions should be designed to be

flexible and adaptable, by enabling potential adjustments and identifying opportunities for improvement and scale-up.

Engage the affected population in the process of setting indicators and definitions of success

will likely result in longer lasting project impacts if communities are involved in defining what success looks like for the project, and how they can leverage the project for future opportunities.

»The flexibility given by the donor favoured the possibility to continuously adjust the activities within the programme to integrate new learnings coming from the research component. More research and innovation type of initiatives are needed.«

The Moving Energy Initiative team



Gender-related interventions

An understanding of the local gender dynamics is vital to design the different phases of programmes that support the development of energy micro-enterprises in displacement settings, in a way that they benefit women and men equally. For example, it is important to include both women and men when providing user training or awareness campaigns. To encourage women to access energy-related jobs, such as the repair and maintenance of solar technologies or local cookstove manufacturing, it is key to put mechanisms in place to allow them the flexibility to do some of the work from their households, or to help them coordinate or form cooperatives groups to help with child care etc.

It is crucial to **ensure appropriate gender expertise is included in project designs, and the design of the MEL framework** to help learn about the gender dynamics in the intervention context. This involves challenging assumptions regarding gender. Programme developers should not tick the gender box, but rather look at being **gender transformative** from the design phase of programmes.

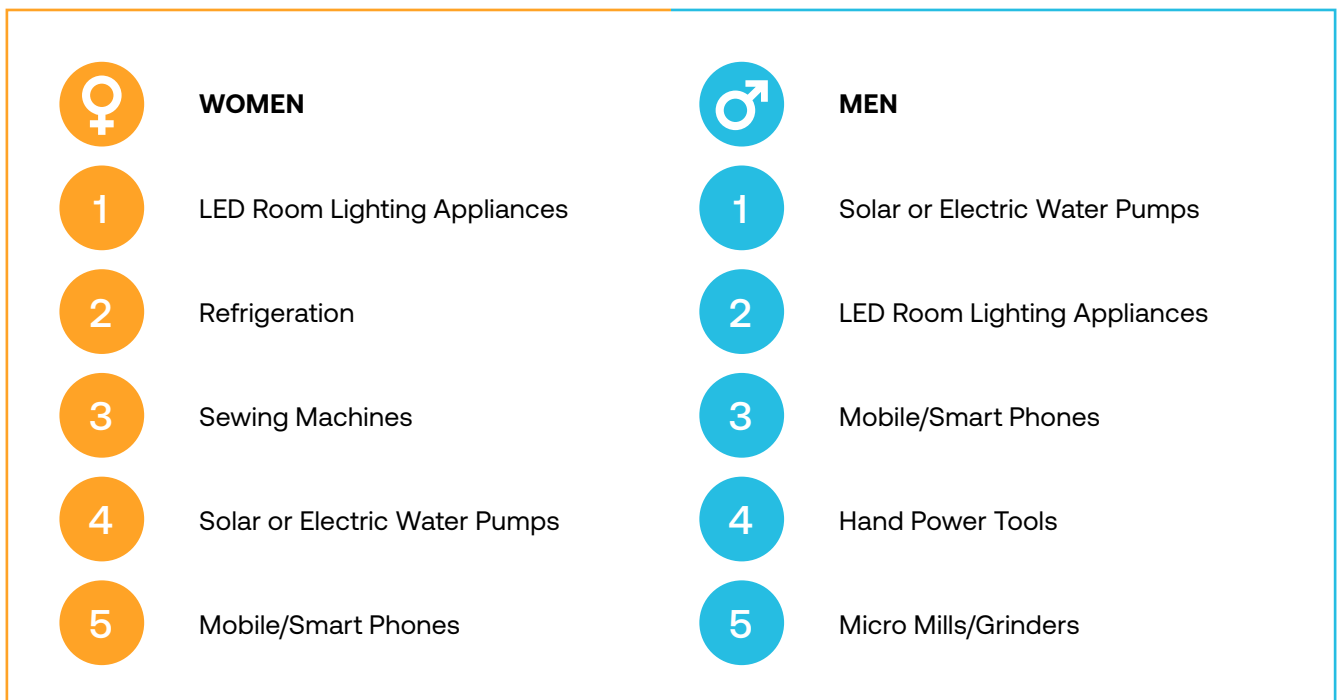
Gender Transformative

Means recognizing gender issues exist and proposing interventions not just to address the practical needs of women and men but also their strategic needs.

Source: Practical Action

There are many **lessons learned** about women’s roles in the energy sector, including PUE-related initiatives targeted at women-led SMEs. Similarly, any training and awareness-raising campaigns must be gender-inclusive, but also specific training and awareness-raising campaigns need to be **targeted at women** as necessary. When providing users with training or awareness campaigns, specific gender-related aspects must be considered. For example, ensure that the end-user of the energy technology/ service is present in demonstrations and trainings.

Figure 4: Top 5 Development Impact Rankings of Household Appliances by Gender



Source: Market survey 2020 (see footnote 21)



Gender-related interventions

Design entrepreneurship programmes that target needs for women entrepreneur: Women-led enterprises and clustered business often show increased profit as compared to the other enterprises. It is key for humanitarian agencies and programme implementers to design entrepreneurship interventions that target women needs, for example, by enabling flexible schemes that allow women to work from home when needed. This means not just taking gender dynamics and barriers into account, but rather targeting these issues upfront and using the outcomes to drive the format of any intended intervention.

Addressing the different needs related to gender: according to the recently-published CLASP market survey³⁰, there is growing evidence to suggest that the use and impact of appliances vary according to their use by men or women. Addressing gender preferences is essential for engaging women in the clean energy transition. For women-led microenterprises, we must also address women's' technology preferences.

Ensure appropriate targeting of interventions for both women and men: for energy micro-enterprises, it is important to design holistic approaches that are not solely technology-focused and take into account gender differences. Such programmes could for instance measure the time saved by men and women through the adoption of efficient cooking and PUE technologies, and support women to harness their newly-available free-time on productive activities, such as developing skills, income generation opportunities, or education and training.³¹

Engage the entire household – women, men, boys, girls, elders, etc. – in energy transformative behavioural training and campaigns to maximize participation and longer-sustained change.

»Access to safe and sustainable energy is a basic human need. Without it, the forcibly displaced – particularly women and children – may be at increased risk and have less time to rebuild their lives.«

UNHCR

30 <https://storage.googleapis.com/clasp-site-attachments/CLASP-MarketSurvey-2020.pdf>

31 https://www.ifc.org/wps/wcm/connect/NEWS_EXT_CONTENT/IFC_External_Corporate_Site/News+and+Events/News/CM-Stories/Kakuma-refugee-camp



Long-term vision that supports the development of self-sustained businesses

The investments devoted by programmes to assist the development of micro-enterprises in displacement settings (through capital, time and support for continued operations) can be fully justified by the broad context of the technology and its associated benefits, and if we **adopt a community perspective to assess the range of long-term positive externalities.**

The availability of markets for energy products and services enables the **diversification of economic activities in displacement settings and their host communities.** For example, creating one-stop-business-shops in refugee settings and business centres has proven to bring vast benefits for income-generation to refugees and host communities altogether.³² Another example is the use of solar refrigeration solutions and cold chains, which has proven successful to boost the mushrooming of other associated micro-enterprises such as the sale of locally sourced products- dairy, fish, meat, or processed food.

Similarly, the market of **high-quality energy-efficient products often allows a positive chain reaction** to increase the demand: customers accrue savings through the use of these products, which increases their purchase power to afford more of these energy products or related services. Finally, programmes can provide valuable support when linking the local entrepreneurs with well-established energy companies and local distributors, fomenting the establishment of official distribution channels towards the settlements.

However, **information regarding the market opportunity (demand, supply, potential) is extremely important for the entrepreneurs and implementing agencies to make informed business decisions and generate long-term impact.** Examples of such camp level efforts include IFC's reports on "[Kakuma as a Marketplace](#)" and "[Market Analysis: Energy Access for Syrian Refugees in Lebanon](#)" and, on a global level, Shell's "[Access to more: creating energy choices for refugees](#)". In Kenya, this move to a one-stop shop model is also one of the ideas of the Kakuma Kalobeyei Challenge Fund: <https://kkcfke.org/>

»There is a need to ensure that income-generating activities and lasting market opportunities for newly skilled refugees and host community members are complementary to a long-term market-based approach for the provision of energy or other types of products and services.«

AMPERE project

32 <https://www.nature.com/articles/s41560-019-0516-x?proof=t>



Long-term vision that supports the development of self-sustained businesses

Understand the informal economy: working directly with local entrepreneurs and refugee business leaders to understand first-hand needs and ensure awareness and engagement in programmes: Micro-businesses are largely acting independently of the international aid system despite their value chain being often integrated with surrounding villages. There is a need to understand more about these micro-enterprises in order to support energy access and reduce barriers for displaced people becoming self-reliant³³.

Adopt a demand-pull rather than supply-push approach: humanitarian agencies and programme implementers need to undertake detailed assessments before project implementation to ensure long-term success, especially as many refugees have already found ways to access energy. New programmes should seek to align with existing independent solutions and host government policies to avoid negative disruption and unintended consequences.

Training, coaching and mentorship needs have to be fully understood, including the continued follow-up support required. Time-frames of program design again should account for that.

The inclusion of new technologies must be accompanied with the development of technical capacity to manage, maintain, repair, and -when possible- produce these technologies locally. The likelihood of success for these local enterprises increases together with their capacity to provide self-sustained and efficient after-sales services and business management.

Facilitate the linkage of local entrepreneurs with well-established energy companies and local distributors, fomenting the establishment of official distribution channels towards the settlements. This linkage can also potentially be with off-takers of products and services if required. Adopting a participatory market systems development approach (PMSD) can facilitate this process, as PMSD pillars are based on system thinking, facilitation and participation.³⁴

Assess the unit economics of each business case and transparently present that to the local entrepreneurs: In order to create sustainable market mechanisms and dynamics, it is key for programmes to provide the necessary understanding for the local entrepreneurs to explore innovative business models tailored to the local conditions and affordability.

³³ <https://www.pmsdroadmap.org/>

³⁴ <https://www.humanitarianresponse.info/en/coordination/clusters/what-cluster-approach>

In conclusion...

The learnings exchanged under this EnDev Learning & Innovation Agenda have proven invaluable and revealed many initiatives and research focused on innovative livelihood and markets in displacement settings. However, consultation with organisations supporting micro-enterprises has revealed a donor preference to fund concrete activities that can be defined upfront (e.g. the establishment of solar kiosks), rather than supporting **softer activities that depend upon working directly with communities** over an extended period. There is a need to understand the informal energy economies within these settings by working directly with communities, capturing evidence on their needs, and determining how to better support micro-entrepreneurs overcome the barriers they face to becoming self-reliant.

For the design of new initiatives that appropriately respond to local demand (following a **“demand-pull” rather than a “supply-push” approach**), proper context-specific market assessments are needed before designing and implementing new projects (which is usually possible through a development-oriented programme). **Coordination around data collection across different programmes** is also vital for the sector (e.g. using standardised metrics that are being tracked across all HE programmes). Data should form an integral part of the design of any market-based approaches, and the **engagement of the private sector is key** from the assessment/design phase of new market-based projects.

There are many lessons learned from off-grid sector experiences that could be brought into the humanitarian sector to support the field of energy for micro-enterprises, which **calls for a greater collaboration between the energy and livelihood sectors**. Productive use of energy programmes in the humanitarian sector are vital to underpin the economies of such settings. Investments are increasingly justified to foster local economies, as a large percentage of refugees are often found to be in protracted situations.

In displacement settings, markets depend upon local rules and regulations. In some areas, non-nationals do not have the right to work, exert certain professions, own a business, or be able to handle money or have a mobile phone. These framework conditions apply only for refugees and alike (people displaced outside of

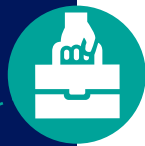
35 <https://www.humanitarianresponse.info/en/coordination/clusters/what-cluster-approach>

their country of origin). Humanitarian Energy partners should make sure that **conditions are conducive enough for a sustainable market-based approach including the local host community**. If not, a dialogue with local and national authorities is needed. Partners should also commit to **avoid market distortion** through free technology handover within local coordination mechanisms. This commitment must be accompanied by **awareness raising** on the effects of free handover on markets, the environment and overall on the “do no harm principle”³⁵.

As potential next steps...

The exchange under the L&I programme has raised the need and interest to promote further research and initiatives including:

- Assessment of the range of energy-related support provided to micro-entrepreneurs that already operate in displacement settings. This could include, for example, **looking at the related business models, financing, and training initiatives undertaken** (e.g. analysis and comparison of training and capacity building activities from different projects that have been targeted at refugee micro-entrepreneurs, and identification of training gaps).
- **Testing of models that highlight the clean energy needs of successful agri-business opportunities in humanitarian settings.** These can include the supply of appropriate energy for the production and value addition (transformation) of food, with an emphasis on market linkages. For example, are there possibilities to increase the areas of land assigned to individual refugees? Should we look instead at displaced/host co-operative models? Should we support highly productive systems on small land plots (e.g. hydroponics, vertical farming, and the like)?
- **Evaluations of projects already implemented to understand the sustainability of the businesses supported.** Have the businesses continued operating? Did they reinvest revenues and expand? Did they need to apply for more grant funding to keep doing the same work?
- **Future knowledge publications in the context of displacement,** related to key cross-sector issues such as water and energy, health and energy, agriculture and energy.





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