

Working Paper

Experiences and Lessons Learned from Promoting Productive Use of Electricity Awareness in Kakuma and Kalobeyei (PUE Phase II): Unlocking Access to Finance for End Users

Energy Solutions for Displacement Settings Project – Kenya

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1. Introduction

The ESDS project supported promoting Productive Use of Electricity (PUE) phase 1 activities in 2022, with positive results evidenced by an increased knowledge of available PUE appliances within the project implementation area. Against this background, the ESDS project carried out PUE phase 2 which went beyond sensitization to enhance the uptake of PUE appliances within Kakuma and Kalobeyei. The overall objective was to increase electricity consumption by households by households and businesses, while also ensuring energy efficiency.

The PUE awareness campaigns were implemented in partnership with SNVSNV with an aim to increase the daily electricity consumption by 1kWh/day for businesses (SMEs) and 200Wh/day for households (HH). The awareness measures involved three main activity areas i) sensitization and training of households and businesses on highly demanded PUE appliances, enabling market linkages, ii) unlocking access to financing for PUE vendors and end-users, and lastly iii)) awareness on e-waste management with a focus on solar equipment and accessories relevant to PUE.

This working paper presents the experiences and lessons learned from the implementation of promoting PUE phase 2 by focusing on unlocking access to financing for vendors and end-users workstream. It also provides specific recommendations necessary to enhance access to end user finance for PUE adoption in Kakuma Refugee Camp and Kalobeyei Integrated Settlement.

1.1 Promoting PUE in Kakuma and Kalobeyei

Energy consumption patterns

The ESDS project achieved a positive outcome for businesses, with daily electricity consumption increasing by 0.24 kWh/day, from 1.49 kWh/day in 2023 to 1.73 kWh/day in 2024. This growth is attributed to the successful adoption of PUE appliances, which has enhanced operational efficiency and

productivity for businesses, enabling them to absorb the higher energy costs and continue benefiting from improved energy access.

In contrast, households connected to the Kalobeyei mini grid showed a decline in average daily consumption, falling short of the project's target of increasing consumption by 0.2 kWh/day. The average daily consumption for households dropped from 0.196 kWh/day in 2023 to 0.175 kWh/day in 2024, a reduction of 0.021 kWh/day. This decline can be attributed to the reduced purchasing power of households, as financial support from the *Bamba Chakula* electronic cash transfer program was cut, limiting refugees' ability to allocate funds for electricity.¹

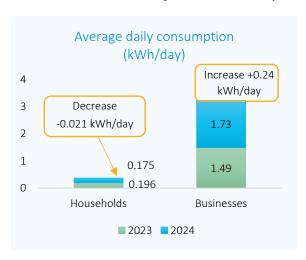


Figure 1: Average daily consumption (kWh/day)

Despite the overall reduction, households adopting PUE appliances reported a 20-30% increase in energy consumption compared to pre-adoption levels, indicating that PUE adoption is beneficial for some users,

¹ Bamba Chakula is Swahili term for 'get your food' and is a cash voucher introduced by WFP which allows refugees to buy food that is not given at distribution centres such as meat, milk, fruits and vegetables.

even if the broader trend shows reduced overall consumption. Furthermore, a project survey revealed that over 60% of households reported using solar component-based systems to power their PUE appliances.

Key findings on product knowledge and awareness of PUE appliances

An impact assessment was conducted which revealed a wide variety of PUE appliances owned by vendors, households, and businesses, with popular items including fridges, TVs, blenders, hair clippers, and electric kettles. Notably, 82% of vendors reported restocking PUE products in 2024, indicating active market engagement, while 71% expanded their operations to new locations within the Kakuma area. This suggests confidence in growing demand and a positive outlook on PUE appliance sales. Additionally, 53% of vendors reported slight increases in income, with some businesses experiencing significant growth, reinforcing the economic potential of PUE appliances.

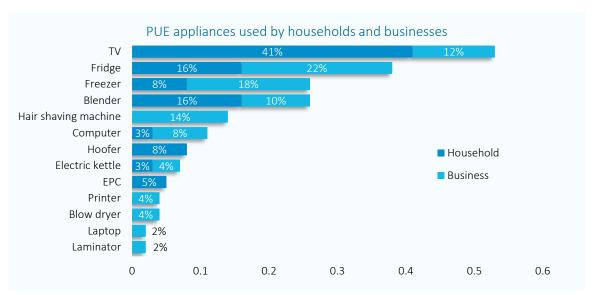


Figure 2: PUE appliances used by households and businesses.

The impact of ESDS awareness campaigns and O&M training was particularly evident, with 79% of households reporting a better understanding of the energy savings, income potential, and ease of use of PUE appliances. Similarly, 53% of businesses benefited from the training, which provided valuable insights into energy savings, productivity, and appliance selection. As a result, 91% of businesses reported an increase in customer demand and income after adopting PUE appliances, with many businesses expanding their services, such as selling ice, juice, or cold drinks, and providing power to neighbouring businesses. Despite these positive results, 21% of households still lacked awareness of PUE appliances and their benefits.

To further enhance the awareness and adoption of PUE, the below recommendations are proposed.

- **Intensify PUE awareness campaigns:** focusing on the financial, timesaving, and efficiency benefits of PUE appliances to reach a broader audience.
- Increase O&M trainings: More O&M training sessions involving vendors and suppliers are required to address misconceptions and build confidence in appliance usage.
- Enhance community sensitization on mini-grids: In Kalobeyei, where mini-grids operate, some community members lack knowledge of electricity connection processes. Mini-grid developers should intensify sensitization efforts to promote PUE adoption and encourage electricity use.

• Establish reliable supply chains for spare parts: Vendors and technicians face challenges in providing proper repairs due to unreliable supply chains. Establishing a local supply chain for affordable, high-quality spare parts is essential to support PUE adoption.

Key findings on e-waste management awareness

The implementation of this work package was led by WEEE Centre subcontracted by SNV, successfully raised awareness of proper e-waste handling and disposal in Kalobeyei and Kakuma. According to project survey, 76% of vendors, 84% of households, and 74% of businesses understand the importance of e-waste management. This increased awareness was credited to ESDS training campaigns, which emphasized the environmental and health risks of improper disposal and encouraged practices such as recycling and selling obsolete items to local dealers. Following the campaigns, 88% of households changed their disposal habits, opting for recycling or selling/trading items instead of discarding them. However, despite this progress, barriers remain, with only 41% of households utilizing the established e-waste collection points, and 19% of businesses having formal processes in place for disposal.

While a significant portion of the community expressed willingness to pay for e-waste disposal services, financial constraints remain a challenge, with 42% of households and 44% of businesses citing financial barriers. Despite the lack of financial incentives, SNV and WEEE Centre campaigns empowered community members to make more environmentally responsible decisions, suggesting that structured incentive programs could further improve safe disposal practices.

To further enhance the work on e-waste, the below recommendations are proposed.

- Expand e-waste collection points: While progress has been made with 5 collection points, the coverage remains insufficient. Increasing the number of collection points and training local e-waste collection agents from businesses and vendors would enhance accessibility and improve disposal practices.
- Leverage interest in e-waste collection: The campaign generated strong interest, particularly from youth, in becoming e-waste collection agents, offering an opportunity for income generation. Additionally, there are buyers who collect e-waste from vendors, but this market is underutilized. Connecting vendors with these buyers could create a more effective e-waste collection system.
- Strengthen e-waste management systems: In Kakuma and Kalobeyei, vendors are storing large amounts of e-waste due to low market prices, which limits proper disposal. To improve the system, financial incentives or better pricing for timely disposal should be implemented, alongside providing vendors with PPE and proper safety training to handle hazardous materials safely. This approach would promote responsible e-waste management and ensure both vendor safety and community health.

2. State of Access to Finance in Kakuma and Kalobeyei

The high upfront costs of PUE appliances coupled with limited end user ability to pay and limited access to credit is one of the biggest inhibitors to PUE adoption among low-income populations, more so in displacement settings, "where financial inclusion challenges are compounded by restrictions on working rights, freedom of movement and access to financial institutions²". In displacement settings, a diverse array of stakeholders including governments, humanitarian agencies, development organisations, private sector entities, and local community groups provide access to formal and informal financial products. In Kakuma and Kalobeyei, end users financing channels primarily include personal savings and networks, Village Savings and Lending Associations (VSLAs), grants and guarantees from development programmes and/or organisations, and financial institutions which contributes to only 16% of financial access³.

2.1 Formal Access

Until recently, formal financial institutions in Kakuma and Kalobeyei did not provide direct credit to refugees. They served as intermediaries for cash transfers by United Nations High Commissioner for Refugees (UNHCR), through the Cash-Based Interventions (CBIs) - unrestricted multi-purpose cash grants, or through guarantee facilities from development financial institutions and/or organisations. The lack of direct extension of credit to refugees was due to the associated risks of lending including credit risk, demand and supply-side issues, the transient nature of refugee resettlement and, regulatory constraints⁴ such as multiple documentations needed by refugees to open and transact through a bank account.

The enactment of the Refugees Act of 2021, which came into effect in February 2022, provided new and additional opportunities, rights, protection, and solutions for refugees in Kenya⁵. It simplified the standard of recognized documentation for financial transactions by mandating recognition of either government-issued refugee Identity Cards (IDs), Refugee Passports or UNHCR-issued IDs. In late 2023, in Kakuma and Kalobeyei commercial lenders started using these documents as valid identification documents for refugees to open accounts and/or apply for loans.

Currently, the financial landscape in Kakuma and Kalobeyei comprises of two commercial banks - Equity Bank Limited, with branches in Kakuma and Kalobeyei, and Kenya Commercial Bank Limited (KCB) with one branch in Kakuma Town. The financial landscape also includes one SACCO – Kenya Bankers Sacco, and one impact investor - InkoMoko, as well as other financial players with indirect or limited presence in the area. The mentioned financial institutions have identified a positive shift in refugees' ability and willingness to pay for financial products and services. This is evidenced by the increased loan disbursement amounts to refugees by Equity Bank and KCB Bank, but more so, by the growing client base of Kenya Bankers Sacco and InkoMoko, which on top of their normal operations, also implement socio-economic programmes with support from the Kakuma Kalobeyei Challenge Fund (KKCF). KKCF is the first refugee and host community focused program in sub-Saharan Africa with an aim to enhance economic integration and self-reliance among displaced populations and local hosts. The challenge fund is a five-year initiative launched in October 2020, jointly administered by the International Finance Corporation, Africa Enterprise Challenge Fund, Turkana County Government, and UNHCR6. Through KKCF, Kenya Bankers Sacco and InkoMoko have been able to implement programmes that provide business

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² https://www.chathamhouse.org/2019/02/innovative-financing-humanitarian-energy-interventions

³ ESDS Phase 2 Impact Assessment Report by SNV.

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⁵ https://www.unhcr.org/africa/news/press-releases/joint-statement-government-kenya-and-un-high-commissioner-refugeeshigh-level

⁶ https://kkcfke.org/

development support and enhance access to end user finance providing accessible capital at affordable rates of 15% and 10% respectively, much lower than typical commercial interest rates.

2.2 Informal Access

Due to the limitations faced when trying to access formal financial services, refugees and host communities resulted to setting up informal groups that provide basic access to finance. Initially, most refugees and host communities had grouped themselves in groups locally known as *Chamas*⁷ providing financing through "merry-go-round" and table banking.

The establishment of VSLAs in Kakuma and Kalobeyei was primarily driven by development organizations as part of their initiatives to foster economic resilience among refugees and host communities. While some organizations recognized the potential role of informal groups like chamas in promoting savings, these groups were largely inactive or lacked significant impact on enhancing credit access. The structuring of VSLAs in Kakuma and Kalobeyei emerged as a deliberate effort by organizations such as Danish Refugee Council (DRC), Norwegian Refugee Council (NRC), Lutheran World Federation (LWF), among other development partners, to enhance financial inclusion. These organisations provided training, financial resources and capacity building support to enable VSLAs to serve as a cornerstone of community-based financing.

VSLAs have gained popularity in the region as they promote self-reliance and socio-economic integration while addressing barriers to accessing formal financial products and services. As of 2019, there were approximately 3000 VSLAs with a circulation of approximately Ksh 21.06 million⁸, demonstrating their significance in Kakuma and Kalobeyei's financial ecosystems.

 $^{^7}$ Cash round groups where members take turns to receive total amount contributed over an agreed period of time.

⁸ https://www.unhcr.org/ke/wp-content/uploads/sites/2/2019/06/Briefing-Kit_May-2019-approved.pdf

3. Existing financing instruments and business models applied in similar refugee contexts

To identify and introduce financing mechanisms that can be applied to PUE appliances in Kakuma and Kalobeyei, the project conducted a comprehensive desk review with the aim to recommend three financing mechanisms for project roll-out. The desk review drew from published reports on end-user financing and identified a range of formal and informal financing instruments that are currently being implemented in displacement settings locally, regionally, and globally.

The findings from the desk review were assessed and summarised in Table 1 below, with a specific emphasis on evaluating the suitability and appropriateness of the recommended financing instruments considering their practicality for adoption by formal (Financial institutions) and informal (VSLAs) financial service providers within displacement settings, with potential for replication in Kakuma and Kalobeyei.

Table 1: Financing mechanisms implemented in different displacement settings.

Financing Mechanism	Pros	Cons	Implementation	
Results-Based Financing (RBF) Ties financial support to predefined outcomes/milestones. Example: KOSAP's RBF in Turkana County for solar solutions; Renewvia's \$4.2M RBF in Kakuma; Global LEAP e-cooking RBF in Kenya.	- Stimulates market development, fosters innovation, spreads risk among stakeholders.	- Limited to projects with quantifiable outcomes; complex administration.	- Align with displacement settings dynamics rather than forcing the market to conform to the RBF, which entails thorough understanding of the market specifically the supply side in terms of challenges in serving refugee market, scale through grants and subsidies.	
Challenge Funds Concessional/Matching grants for innovative projects selected competitively. Example: Kakuma Kalobeyei Challenge Fund; Humanitarian Grand Challenge (supporting energy projects in DRC, Kenya, Nigeria, etc.)	 Provides funding for innovative initiatives that may not be financed through traditional channels. Engages private sector in addressing market development. 	- Complex application process; highly competitive.	 Set clear objectives and goals for the challenge and its implementation activities. Support recipients in progressing through the innovation pathway toward scalability. 	
Guarantees Financial mechanisms that mitigate risks for investors/lenders by covering potential losses. Example: UNHCR Green Finance Facility in Kenya and Uganda; guarantees supporting	- Reduces/shares risk attracting private capital, incentivizes investment, and enhances creditworthiness of projects.	 High administrative costs; may not fully eliminate perceived risks. Lack of clear accountability for individual successes 	- Ensure the project's long- term viability by assessing impact of the guarantee Effectively set clear (partner) objectives to prevent duplication and ensure coordination.	

Financing Mechanism	Pros	Cons	Implementation
refugee-facing financial products.			
Grants Non-repayable funds supporting innovation and capacity building. Example: Mozambique Energy for All project; Solar-Powered Sewing Machines for Tailoring Businesses in Dadaab Refugee Complex.	- Catalyses innovation; supports initial market entry and capacity building. - Limited availability; risk of long-term dependency without sustainability plans.		- Requires clear objectives and sustainability plans; tailored for specific refugee contexts.
Traditional Financing Loans and financial services offered by formal financial institutions to refugee individuals/groups.	- Builds financial inclusion; supports entrepreneurial ventures through direct access to capital.	- Regulatory constraints; limited access to formal IDs; requirements such as collateral which may be challenging for refugees to provide	- Work with financial institutions Equity Bank and KCB Bank and Kenya Bankers Sacco to develop financial products tailored to the needs of refugees, including credit facilities for PUE appliances.
Community-Based Financing - Informal savings and lending groups like VSLAs and Chamas. Example: Over 3000 VSLAs in Kakuma and Kalobeyei	- Enhances financial inclusion, accessible for unbanked populations.	- Limited scale to access formal services and digitalisation.	 Support the establishment and growth of VSLAs by providing technical assistance and funding support where needed. Collaborate with local organisations and leaders to strengthen existing financing mechanisms and integrate them into broader financial inclusion efforts.
Digital Financial Services (DFS) - Leverages mobile money and digital banking for affordable energy financing. Example: Equity Bank's Eco Moto Loan product in Kakuma and Kalobeyei; Belcash Technology DFS for Somali refugees in Ethiopia	 Enhances accessibility. Facilitates financial inclusion for refugees, leveraging existing mobile infrastructure. 	- SIM card access restrictions for refugees; financial literacy gaps, investments in digital infrastructure	- Develop mobile-based financing solutions tailored to the needs of refugees such as mobile lending platforms or mobile-based payment plans for PUE appliances.
Blended Finance Combines funding from diverse sources (concessional funds) to mobilize commercial funds (private investment).	 Attracts private sector and bridges funding gaps. Aligns financial returns with social and 	- Complex structuring; risks of over- subsidization.	- Develop blended finance instruments tailored to displacement settings by partnering with diverse stakeholders and combining concessional and commercial finance to

Financing Mechanism	Pros	Cons	Implementation
Example: BRILHO project in Mozambique providing catalytic grants, RBFs, and technical support to foster energy market growth.	environmental goals		achieve sustainable impact in Kakuma and Kalobeyei

3.1 Rapid survey findings on proposed financing mechanisms

Based on the desk review and assessment, three key PUE financing mechanisms were proposed for replication and project roll-out. These mechanisms presented distinct advantages to address the financial barriers as well as practicality of project implementation, thereby driving the adoption of PUE appliances. The proposed mechanisms include:

- Community-based financing leverages the widespread presence of VSLAs in the region, using them as a potential avenue for PUE adoption through both awareness and financing. This mechanism aims to build on the social capital and trust inherent in these groups while enhancing their capacity to support small-scale investments in PUE appliances.
- ii) Traditional Financing through third-party agreements, to capitalise on existing financial infrastructure and previous efforts by SNV to engage financial institutions in the region including facilitating business-to-business (B2B) and business-to-consumer (B2C) linkages through targeted matchmaking activities. In addition, this this mechanism aligns with the implementation of the Kenya Refugee Act 2021 which encourages financial institutions to extend direct to refugees.
- Blended financing combines the strengths of community-based financing and traditional financing while offering a strategic solution for risk mitigation. It integrates financial and technical support to enhance the sustainability and scalability of PUE financing, encouraging financial institutions to invest in the PUE sector.

A rapid survey using a structured questionnaire was conducted to assess applicability and replicability of the proposed PUE financing mechanisms. Findings from the rapid survey confirmed that the proposed PUE financing mechanisms are both applicable and replicable within the socio-economic context of Kakuma and Kalobeyei. Insights from financial institutions, development organizations, PUE vendors, stockists, and end users highlighted the potential of these mechanisms to address existing barriers to access and affordability.

Based on a maximum score of 5, the survey findings revealed closely aligned rankings for blended financing (3.2), formal financing (3.5), and community-based financing (3.6), highlighting their comparable suitability and practicality for end-user financing in PUE adoption. Blended financing emerged as the highest-ranked mechanism by financial institutions mostly due to its potential to provide comprehensive financial assistance while mitigating risks for the FIs. Formal financing gained preference among vendors and stockists, due to its capacity to provide substantial working capital, as compared to other financing mechanisms.

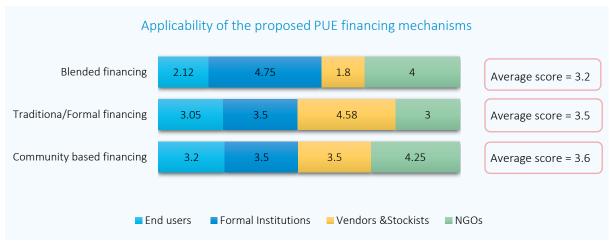


Figure 3: Ranking of proposed PUE financing mechanisms.

Community-based financing was highly regarded as a financing mechanism that is easily accessible and most affordable to end users, when compared to the three proposed and other conventional financing mechanisms, due to its low interest rates, and swift access to funds. This validation authenticated Phase II's proposed approach of working with VSLAs to enhance end user access to finance for purchase of PUE appliances.

Key takeaways from desk review on existing financing products

- ☐ There's a scarcity of both primary and secondary data available specifically for financing PUE initiatives, contrasting with the largely available information on clean cooking and solar solutions funding. This highlights the underdevelopment of specified financing avenues for PUE initiatives, as well as the lack of documentation.
- □ Refugee initiatives heavily rely on support from donors, development organisations, and DFIs, including those focusing on energy market development. This dependency underscores the need for diverse and sustainable financing sources beyond traditional donor funding, where coordination between donor initiatives within refugee settings is key to prevent market distortion and 'competition' with other initiatives and opportunities.
- Despite opportunities, private sector involvement (financial institutions) in PUE initiatives remains constrained due to challenges like limited human capital, infrastructure deficiencies, and high investment risks. The lack of engagement beyond contractual agreements hampers the scalability and sustainability of projects, emphasising the need for innovative approaches to attract private funding.
- □ Supportive policies and frameworks at national and international levels are crucial in enabling refugees to access diverse financing products. Such policies create an enabling environment for financial institutions (and private financiers) to engage with refugee populations, fostering sustainable and inclusive development.

4. Developed VSLA business cases to enhance community-based financing

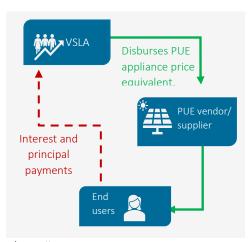
Community-based financing, particularly through the VSLAs, emerged as an accessible pathway for promoting end-user financing for PUE adoption in Kakuma and Kalobeyei. Validated as the most practical for project roll-out, the project identified nine VSLAs using a selection criteria that focused on their capacity to provide financing for PUE products.

Two business cases were developed focusing on strengthening the VSLAs capacity to sustainably provide end user financing. These business cases were subsequently presented to VSLAs through tailored sensitization and training sessions to ensure they were well equipped to implement the BCs. By providing a structured framework for VSLA investment, the business cases positioned VSLAs as viable and scalable solutions for enhancing access to finance within refugee and host communities.

4.1 Proposed business cases

Business Case 1: Supply Chain Financing (SCF) Model

SCF is a financing mechanism that enhances the efficiency of the supply chain by ensuring timely payments to suppliers and providing flexible payment terms to buyers. For the implementation of the SCF business case opportunity in the VSLA model, the refugees shall acquire the PUE appliances directly from PUE vendors/suppliers upon which the VSLA shall pay the appliance amount equivalent to the vendors and/or suppliers. The end user then repays the VSLAs over an agreed-upon period at an agreed interest rate. The Implementation approach include.

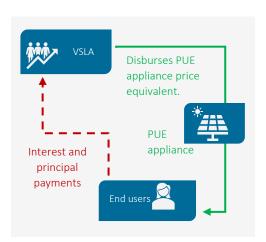


- i. VSLA/Individual member identification of PUE vendor/supplier.
- ii. VSLAs pay the supplier full price equivalent upfront.
- iii. Individuals repay the VSLAs with interest over an agreed period of time.
 - Set up repayment plans that are affordable for members.
 - Monitor repayments same process as the loan's repayments.

Business Case 2: Vendor Financing Model

Vendor financing involves the provision of credit by suppliers to buyers, allowing customers to acquire necessary goods or services without needing to secure immediate external funding. Hence develop a vendor financing mechanism that allows end users to purchase PUE appliances on credit. This includes designing repayment plans that are affordable and manageable for the borrowers. The Implementation approach include

- i. Identify highly demanded PUE appliances.
- ii. VSLA investment in purchasing the appliances pooling resources.
- iii. Provision of vendor financing to end users
- iv. Generation of income through interests and fees from the products and/or services.



4.2 Training Structure

To ensure that the VSLAs were fully equipped to implement the business cases, the training was structured in three phases:

Mentoring and Capacity-Building Practical Application (In-Depth Sensitization (Field-Based Training) Support Training) After the training sessions. The second training phase mentoring sessions were targeted representatives from The first training session aimed launched to provide additional each VSLA, typically the to generate awareness and support to the VSLAs. chairperson, treasurer, and interest among all members of secretary who would then the VSLAs. This session took These sessions focused on cascade the training to the rest place during the VSLAs' regular reinforcing the of their groups. This phase implementation of the meetings, allowing for focused on the detailed maximum participation. The business cases, resource implementation of the goal was to provide a general mobilization, and financial business cases. Using a understanding of the two planning. business plan approach, the business cases and the During the mentoring phase, participants learned to apply potential benefits of adopting VSLAs received hands-on the concepts to real-world PUE technologies as well as guidance and practical scenarios, including financial provide financial linkage. assistance in applying the calculations and resource business cases, and addressing mobilization strategies. challenges that emerged as Financial planning concepts they initiated the business were expounded by experts cases. from Kenya Bankers Sacco, This phase was still ongoing as who used real-life examples to the project came to an end, illustrate key financial seeing the intial uptake of the principles. The training also first business case by two included interactive Q&A VSLAs. sessions to address specific concerns and ensure that participants fully understood

Figure 4: Business cases training structure

☐ The introduction of business cases received positive feedback from participants, who found the practical, real-world applications of the concepts highly relevant. However, it is important to recognize that the adoption of these business cases is a gradual process. Therefore, ongoing, tailored support and capacity-building efforts are essential to ensure the successful implementation and long-term sustainability of the BCs.

Key takeaways from VSLA BC trainings conducted on existing financing products

the financial and operational aspects of the business cases.

- □ Field-based training proved to be an effective strategy for increasing participation, especially among women. By conducting sessions at regular meeting locations, where women are more likely to engage, training sessions become more inclusive. Future training programs should prioritize accessible, community-based locations to promote active participation, with a focus on ensuring women are included in key financial decision-making processes.
- □ A phased training approach initially focusing on sensitization and followed by practical implementation and mentorship has proven to be highly effective in enhancing understanding of BCs and the broader PUE concept. This phased approach offers greater value than one-off sessions, as it allows for repeated clarification and deeper understanding, reinforcing concepts over time.

5. Recommendations for enhancing end user access to finance for PUE adoption in Kakuma and Kalobeyei

The experiences and lessons learnt generate several recommendations for the design, implementation and facilitation of unlocking access to financing options for end users including HH and MSMEs.

1. Understand end-user funding needs and requirements to provide wholistic support to refugees and host communities.

i. Develop tailored financial products for PUE adoption.

To advance PUE adoption in Kakuma and Kalobeyei, the choice of end user financing is pivotal as it will not only ensure end user accessibility but also long-term affordability of the PUE appliances. To overcome barriers to formal financing, implementors need to work in partnership with the financial institutions to develop financial products that are refugee and host centric, designing financial products structured to provide sufficient funding that supports the long-term adoption of PUE. Loan amounts and repayment terms should align with the financial capacities of HH and MSMEs ensuring accessibility while fostering commitment.

ii. Adopt a cross-sectoral approach to end-user financing.

A wholistic approach to PUE financing must address both the supply and demand for capital while considering the broader dynamics surrounding refugee camps hence to drive innovation in financing, donors and key stakeholders must recognize and address the cross-sectoral nature of energy access. This involves designing innovative financing products with complementary support in say business growth, livelihoods, etc, ensuring they are viable and responsive to the unique challenges faced by refugees and host communities. Developed PUE financial products can be combined to create holistic end-user financing solutions. This can look like coupling working capital with freezer loans for MSMEs or coupling school fee loans with SHS or E-cooking loans. Through this, the scalability and sustainability of PUE adoption can be significantly enhanced.

2. Provide appropriate financing mechanisms for Kakuma and Kalobeyei financial landscape.

Leverage the proposed and emerging financing mechanisms to enhance access to both concessional and commercial financing.

i. Advance the community-based financing mechanism as an avenue for end user access to finance

Community-based financing through VSLAs offers significant potential for enhancing PUE adoption. To effectively scale the success of VSLAs in Kakuma and Kalobeyei, implementors should use a more comprehensive approach that not only incorporates the financial trainings and mentorship, but also additional capacity building on aspects such as group and business registrations, group dynamics and operational best practices.

The project's initial engagement with VSLAs focused on promoting end-user financing introducing the business cases which was met with positive feedback as the VSLAs appreciated the practicality and relevance of the concepts. They noted that this was their first time being exposed to such structured business strategies, emphasizing that their usual activities have focused primarily on savings and lending without a broader entrepreneurial/business perspective.

Despite the demonstrated interest, consistent support and tailored capacity-building are critical to ensure successful implementation of the BCs, hence there is an opportunity to scale VSLAs model through more targeted, ongoing training to refine operational processes and position VSLAs as credible partners for diverse stakeholders such as private sector actors and financial institutions who can facilitate investment and ensure long-term sustainability.

ii. Blended Financing

Implementors need to design blended finance mechanisms that support scalability and long-term sustainability of PUE projects while incorporating risk-sharing instruments to attract private investments. This can include credit guarantees, and first-loss facilities, co-financing agreements that reduce the financial risk for the local financial institutions, making them more willing to invest in PUE initiatives. Implementors should also consider combining financial products with specialized technical assistance that encompasses both financial literacy and comprehensive business acumen training. This dual approach ensures that end-users are not only equipped with the necessary finance but also possess the knowledge and skills to fully adopt PUE. To ensure the success of blended financing for PUE adoption in Kakuma and Kalobeyei, implementors need to align with the financial needs, delivery model, and risk profile of the diversity of both demand and supply dynamics in displacement settings.

iii. Leverage Emerging Financing Mechanisms

The financing landscape within refugee settings is undergoing a significant transformation, that is propelled by several key factors, including i) increased stakeholder collaborations, ii) supportive policies and frameworks at national and international levels, creating an enabling environment for refugee financing initiatives, iii) the use of digital technologies, including mobile money and digital platforms improving accessibility and efficiency in delivering financial services to refugees. Some emerging trends for financing the energy sector have developed. Among these, impact bonds and climate finance mechanisms, particularly carbon financing, offer transformative potential for advancing PUE adoption. Implementors should then leverage these emerging financing mechanisms to not only bridge funding gaps but also incentivizes private sector participation, driving scalability and sustainability of PUE adoption in refugee settings.

3. Strengthen collaboration and partnerships with the private sector through local financial institutions.

Strategic partnerships with the private sector are vital to overcoming the challenges of enhancing access to finance for PUE adoption. Strengthening collaborations with private sector actors will create a robust ecosystem of support for PUE adoption, enhancing the financial resilience of refugees and host communities while ensuring long-term project impact. Future implementors should actively engage private sector players to facilitate direct linkages, promote financial inclusion, and enrich training content with practical insights from industry stakeholders. The involvement of Kenya Bankers Sacco, for example, during the trainings of the business cases, provided direct linkage of the VSLAs with the Sacco, which played a pivotal role in addressing and clarifying common misconceptions the VSLAs may hold about accessing formal finance. Project implementors should foster these partnerships, expanding lending options for refugees and host communities to navigate the financial landscape more effectively, ultimately leading to improved access to financing and greater financial resilience of the refugees and host communities, for PUE adoption.

