



RESPONSE
INNOVATION
LAB



GREEN INNOVATIONS CATALOGUE 2019 -2020

INNOVATING ENERGY AND ENVIRONMENT SOLUTIONS IN UGANDA TO MEET
DEMAND IN A NEW WAY



Netherlands Enterprise Agency



Save the Children



SNV



DUTCH COALITION FOR
HUMANITARIAN INNOVATION

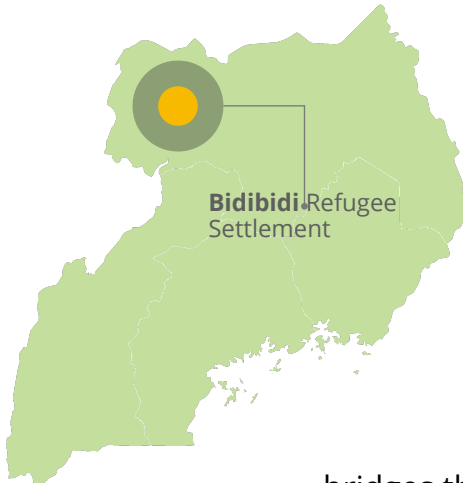


MINISTRY OF FOREIGN AFFAIRS
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THE PROJECT

AMPERE Project: Access to Modern Energy in Humanitarian Settings Pilot



The AMPERE Project is a consortium led by Mercy Corps in partnership with the Response Innovation Lab, Save the Children and Netherlands Development Organisation (SNV) to test, prove and build evidence for quality, affordable, and reliable market-driven energy access solutions for humanitarian response programming in Uganda. The implementation area - the Bidibidi refugee settlement in West Nile in Northern Uganda - displays favourable characteristics to explore an innovative operational model that

bridges the humanitarian-development nexus. The confluence of the strong off-grid solar market and mobile money sector make Uganda one of the highest potential markets in the world for PAYGo expansion. Uganda also hosts over a million forcibly displaced people, which is the third-largest forcibly displaced population in the world. The sub-regions of North and West Nile in Uganda hosts majority of the refugees that have fled to the country in the past three years.

Access to energy is covered up to 15% at the national level, with only 7% in rural areas. One of the great challenges facing refugees and Ugandans in host community villages is the lack of quality, reliable, affordable, and clean energy sources for both electricity and cooking. Firewood is relied upon for cooking, its depletion poses a risk of a natural resource, and sparks intercommunal conflicts and on small torches and candles for light, that also need frequent replacing. Alternative energy sources, such as improved cookstoves and solar panels exist. However, a “business as usual” approach has not yet worked to substantially and sustainably expand access to solar energy in refugee settlements and is unlikely to take off in the future without intervention.

Thus the AMPERE project is not business-as-usual, and sets out to explore the potential for market-based approaches, including PAYGo technologies, that extend access to energy to forcibly displaced populations, by testing approaches to overcome known barriers in these markets, including affordability, perceived creditworthiness of refugees and costs of last mile in settlements with less dense population centers. AMPERE provides an opportunity with Green Innovations and its partners to access the private sector actors and increase the access to energy for displaced people in Bidibidi settlement and host communities.

Acronyms

DCHI	Dutch Coalition for Humanitarian Innovation
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
ISSB	Interlocking Stabilized Soil Block
RGF	Raising Gabdho Foundation
RVO	Netherlands Enterprise Agency
RIL	Response Innovation Lab
SCC	Smart Communities Coalition
SNV	Netherlands Development Organisation
YOYEC	Yoyo Youth Clean Energy Cooperation

Table of Content

The Project	Page 1
Acronyms	Page 2
Partners	Page 4
Executive Letter.....	Page 6
Top Five Innovations	Page 7
Guest Innovators from the SCC.....	Page 20
Runner Up to the Innovation Challenge.....	Page 23
Directory of Additional Green Innovations	Page 30

PARTNERS

Response Innovation Lab

The Response Innovation Lab was founded by humanitarian professionals from some of the world's leading NGOs - World Vision, Save the Children, Oxfam, and Civic - who experienced first-hand how difficult it is for innovative solutions to be piloted, tested and scaled in emergency contexts, where they are most needed. RIL aims to create collaborative spaces and networks inside major humanitarian responses to help connect humanitarian actors with non-traditional actors (such as the private sector, academia, and the innovation sector) to facilitate understanding, share challenges and identify potential breakthrough solutions that better support addressing the needs of crisis-affected communities.

The Response Innovation Lab in Uganda is hosted by Save the Children, and was founded in 2017 to support impactful innovations in the delivery of relief and resilience solutions for most vulnerable communities and persons such as the refugees and their host communities.

Save the Children

Save the Children was founded in 1919, is the largest independent children's rights organisation, and active in more than 120 countries. Worldwide there are more than 27,000 Save the Children professionals, of which more than 85% from our local field offices, work every day to help children in vulnerable situations. This can be an acute emergency due to a (natural) disaster or prolonged conflict situation such as war or chronic poverty. Every child that is threatened receives Save the Children's attention and care, regardless of religion, gender, race, skin colour, nationality, or political affiliation. Save the Children hosts the Response Innovation Lab in Uganda.

Mercy Corps

Globally, Mercy Corps is a team of 5,500+ humanitarians that take on the world's toughest challenges to help people build better, stronger lives by mobilising communities, collaborating with companies and activating across agencies to deliver innovative ideas that make a better world possible. Mercy Corps is at the forefront of the efforts to make humanitarian operations more environmentally-conscious, for instance developing shared value partnerships with private sector to power operations in site offices in Uganda sustainably.

Mercy Corps Uganda has differentiated itself as a forward-thinking, market-driven agency, having implemented 40 programmes, valued at over \$141 million, changing the lives of over 2.5 million Ugandans and refugees. In West Nile, Mercy Corps has broadened reach and understanding of market-based solutions in refugee and host community settings; reaching 14,000 refugees and host community members through smart subsidies for agricultural inputs, financial services and improving linkages to suppliers.

Access to energy and low-carbon development is one of the main pillars of Mercy Corps' strategy. Their programming focuses on the direct impact that our access to energy programming has on the lives of men, women, boys and girls.

SNV

SNV is a not-for-profit international development organisation that makes a lasting difference in the lives of people living in poverty by helping them raise incomes and access basic services. They focus on only three sectors and have a long-term, local presence in over 25 countries in Asia, Africa and Latin America. The global SNV team is 1,3000.

RVO

Netherlands Enterprise Agency (RVO.nl) encourages entrepreneurs in sustainable, agrarian, innovative and international business. The Agency helps with grants, finding business partners, know-how and compliance with laws and regulations and it aims to make it easier to do business using smart organisation and digital communication. The Agency works at the instigation of ministries and the European Union and is part of the Ministry of Economic Affairs. The organisation has been in existence since 2014 and is the result of a merger between NL Agency and the Dienst Regelingen. The Agency works in the Netherlands and abroad with governments, knowledge centres, international organisations and countless other partners.

Dutch Coalition for Humanitarian Innovation

The Dutch Coalition for Humanitarian Innovation (DCHI) was launched in 2016 by the Netherlands Red Cross, CARE Nederland, UNICEF Netherlands, the Ministry of Foreign Affairs of the Netherlands, the Municipality of The Hague, and VNO-NCW. The Ministry of Defense of the Netherlands joined the DCHI board in 2017. DCHI is a Coalition comprised of governmental actors, knowledge institutes, academia, businesses, and humanitarian organizations in the Netherlands who develop and scale innovative solutions to increase the impact and reduce the costs of humanitarian action.

Executive Letter



Welcome to the Green Innovation Catalogue!

Inside you will find a selection of options in Uganda that are bringing better environment and energy innovation to humanitarian settings and improving the lives of children, families, and communities.

Those innovations were identified through the work on AMPERE with Mercy Corps, SNV and through the Green Innovation Challenge Fund by the Response Innovation Lab. Our selection process was rigorous; we had over 95 applicants. The RIL team brought together a multipartite selection panel and used a selection process focused on the level of disruption of the innovation, technical relevance, potential for impact and sustainability, and an innovator's capacity to narrow down the final candidates.

Special thanks to the panel members for their support: SNV, GIZ (Energizing Development), UNHCR Uganda, Save the Children, the Ministry of Science, Technology and Innovation, the Ministry of Environment, and the Ministry of Energy and Mineral Resources.

While we will showcase a selection in this catalogue, we are highlighting runner ups to the Green Innovation Challenge Fund as well. Why? Because we love what innovators are doing, and each is responding to a challenge in a unique way, and we want you to know about them.

For the same reasons, we invited four innovators from the Smart Communities Coalition – a coalition of public-private partners supported by Mastercard, Power Africa, and USAID striving for improved connectivity, energy access, and financial services, to showcase their work in this catalogue as well.

Don't hesitate to reach out to the innovators directly, or to us with further questions: uganda@responseinnovationlab.com.

Enjoy!

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TOP 5 INNOVATIONS - AMPERE

ENVenture Enterprises



Launching community-based energy cooperatives



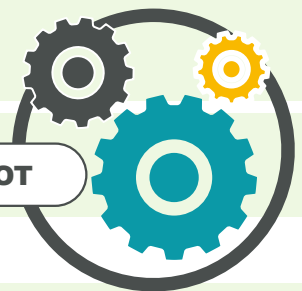
Location:

- Bidibidi Zone 3—Village 16 for this pilot
- 97 projects across rural Uganda, and two kiosks in Rhino settlement



Stages of Innovation:

PILOT



Overview:

ENVenture was founded in 2014, and is an award-winning social enterprise that incubates and accelerates clean energy enterprises by providing financing, capacity building, and mobile technology to community-based organizations. ENVenture recently merged with the international organization New Energy Nexus which formed New Energy Nexus Uganda. In Uganda, they have created 97 enterprises, sold over 16,000 products, and reached 87,000 + people.

The Problem

Refugee and host communities lack information on affordable clean energy solutions and environmentally-friendly practice. Those that are available are unaffordable or made inaccessible by long distances that are traveled to reach the suppliers.

The Solution

ENVenture forms community-based cooperatives to increase access to renewable energy products. ENVenture is creating energy-use transition from traditional methods to low-cost household clean-tech by bringing these affordable products, otherwise found in urban areas, closer to refugee communities. Through this, they empower groups from the local community to become the medium of this transition and dissemination. The energy cooperative founded in Bidibidi promotes the use and uptake of clean energy technologies based on a desk research market study to evaluate the demand of four key technologies 1) solar products 2) improved clean cookstoves 3) briquettes 4) non-electric water filters.



Activities:

- ENVenture supported the formation of Yoyo Youth Clean Energy Cooperation (YOYEC), consisting of 11 members (8 refugee and 3 host community) to run two energy kiosks in Zone 3 with a mission to enable access of clean energy household products for local communities.
- ENVenture is providing a business toolkit to the cooperation that comprises of financing and capacity building.
- Financing is in the form of an interest free stock loan that comprises products from our vetted supplier-partner companies: cook stoves, solar lanterns, water filters, cooking bags and briquettes



Success & Learnings:

- Finding a local briquette supplier through RGF was a win-win because it allowed YOYEC to find briquettes locally and thus reduce associated transportation costs and it supported a local businesses supported by another grantee, Raising Gabdho Foundation
- Creating partnerships with development/humanitarian actors to ensure price alignment across suppliers
- **Challenges to Date:** *Vast distances drive product prices up as transportation costs are high. Market distortion noted in the settlements due to free distributions or subsidies products through assistance programmes*



Next Steps:

- Grow the cooperation from 11 members to 22 in two years
- A vision to reach 5,000 end users with the stock acquired thus far
- Repayment of stock loan & investment in activities that can drive more business to the kiosks
- Diversification of products at kiosks

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Kumi Kumi

Prototyping a digital energy market platform

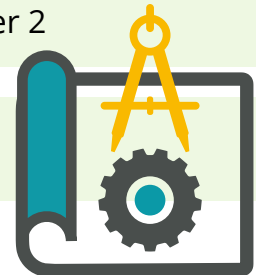


Location:

- Bidibidi - Zone 4 - Abrimajo Cluster 1 and Oluba Cluster 2



Stages of Innovation:



PROTOTYPE



Overview:

Founded in 2017, Kumi Kumi leverages a pre-existing market place for refugee vendors of tailored goods (specifically bags using African fabric). Under this pilot, Kumi Kumi created a digital point-collection platform that supports refugees with saving for a purpose and unlocking access to clean energy solutions.

The Problem

In the Uganda market, clean energy products are unaffordable to refugees and host communities.

The Solution

Kumi Kumi introduced an Energy Exchange Program, a digital platform as an additional service to the trained tailor groups. Registered users on the platform can convert savings acquired through sales of their product or other income-generating activities into points that they utilize to redeem products. The idea behind this initiative is to set up a credit saving modality that allows users to save and redeem at a later stage. This redeeming product platform is based upon available information from existing partners on the energy needs of the refugee community.



Activities:

- 10 groups with 20 refugees and host community members in each have been formed. They are able to save from their weekly earnings, including 15% of the production from Kumi Kumi orders for tailored products (bags).
- Their savings are converted into points on the Energy Exchange Program platform that are accumulated and the reward is an energy product.
- Training of Kumi Kumi agents on the usage of the Energy platform in order to support the groups completed.



Success & Learnings:

- 3 of the 10 groups already purchased their first energy product (entry-level price) for all members.
- Several groups are choosing to first save to redeem a solar light with an built-in phone-charging device and use it as income generating activity for the group, then continue to save for individual small lights.
- Participants are willing to contribute some of their own savings to the project (beyond those earned through Kumi Kumi bags), both in groups and individually.



Next Steps:

- Further customize the Kumi Kumi Energy platform by adding details of savings and loans, and other products and services onto the platform.
- A Kumi Kumi shop is set up to create accessibility of the solar products once members have accumulated points.

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Raising Gabdho Foundation Ltd

Strengthening Community's Resilience to Environmental Challenges



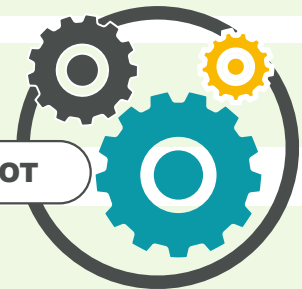
Location:

- Bidibidi Zone 3—Village 16 for this pilot, Kampala and Kyangwali settlement.



Stages of Innovation:

PILOT



Overview:

Founded in 2015, Raising Gabdho Foundation (RGF) is a social enterprise which aims to improve access to sustainable energy in unserved communities by engaging community members across the value chain.

The Problem

For daily cooking, refugee households in Bidibidi use 1.6 kg of firewood and host communities and 2.1 kg. Supply of clean energy sources is irregular. Products are often of a low quality with a short life span. This demotivates both refugees and host communities from adopting products which require continuous replacement and support from the non-existent technical/after-sale teams, thus accelerating the use of conventional energy sources.

The Solution

RGF has a human-centered design approach to energy solutions with people combatting energy poverty challenges and environmental degradation. RGF engages and supports communities to design sustainable solutions and link them to partners for market access. RGF piloted their innovation in one of the hardest to reach, underserved villages in Zone-3 with a population of approximately 2,000 people and 500 households.



Activities:

- 72 community members selected in Bidibidi to undergo human-centered design training in the area of energy and environment.
- The training focuses on solutions that can be fully made and maintained locally.
- They selected a range of trainings on production of carbonized briquettes, handmade briquette machines, improved stoves bases made from clay soil, production of fertilizers from bio-waste, and building capacity in entrepreneurship skills. With this range of topics RGF is trying an integrated approach that starts with the gathering of unused grass (which is often burnt for clearing land otherwise) as the biomass for the briquettes and ends with production of compost through vermiculture, Effectively providing energy solutions but also improving soil fertility while encouraging a reduction in bush-burning practices.
- The approach combines technical skills with awareness raising on clean energy and provides opportunity for either domestic uses or business opportunities.



Success & Learnings:

- Community buy-in for the project has been our major success and support from existing partners.
- Establishment of one commercial outlet.
- **Challenges to date:** 1) language barrier for the key trainers 2) time frame for operation is short 3) overlap with food distributions required rescheduling some activities.



Next Steps:

- Create market linkages & handover the management of the production site and outlet to the community members.

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Africa Non-profit Chore (ANCHOR) and Viamo

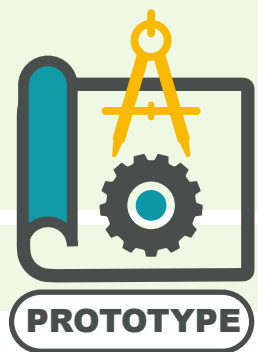

ANCHOR
 AFRICA NON-PROFIT CHORE

Testing Interactive Voice Response for clean-energy awareness



Location:

- Bidibidi Zone 3— 3 villages
- Anchor operates in Arua, Madi Okollo, Maracha District & Kampala districts



Stages of Innovation:



Overview:

Founded in 2014, ANCHOR is a nonprofit, nongovernmental organization contributing towards ending of violence and economic exclusion of the world's most vulnerable groups by providing the tools and resources needed to increase their self-sufficiency. VIAMO Solutions is a social enterprise that provides solutions for areas with low technology infrastructure and literacy levels. The pilot aims to increase the uptake of clean energy products and services through improving market knowledge, attitudes, and practices for vendors, refugees, and host communities.

The Problem

Since the onset of the refugee influx in July 2016, there's increased competition on wood for cooking, heating, and shelter. The rapid depletion of forest cover worsened by the use of inefficient biomass energy techniques is affecting soil fertility, flooding, and drying up of water sources. Decreasing land productivity risks affecting food security and increasing conflicts with host communities. Refugee girls and women are spending 3 - 6 hours daily on average to collect between 25 - 30 kgs of firewood, which limits their participation in other productive activities, and exposes them to gender-based violence, including rape.

The Solution

Utilizing phone-enabled Interactive Voice Response (IVR) and creative market drama to stimulate a market-based approach for increasing clean energy adaptation. Through this refugee and host communities will receive information on affordable clean energy solutions and environmental-friendly practices initially through market activation drama, and subsequently using phone-enabled IVR technology.

The IVR will contribute to social behavioral change by the users and improve coordination and trade, which will result in enhancing private sector investment and competition. The access of users to suppliers of quality clean energy products will be facilitated, and with this improved awareness there will be a reduction in cultural bias against environmentally-friendly practices including community adaptation to bio-gas and clean-cooking stove.



Activities:

- ANCHOR and Viamo are using Interactive Voice Response (IVR) calls to bypass the language and illiteracy barrier.
- The logic of this intervention is that if last-mile-community members are better informed about the benefits and comparative costs of clean energy products, they will be willing and able to invest their own resources towards utilizing clean energy products and best practices.
- Through linking them with trained and certified clean energy vendors, it is anticipated that community members will have access to quality clean energy products and information within their geographical reach.
- A multilingual IVR platform is set up to facilitate phone-enabled voice data collection from targeted communities.
- Around 1000 participating members will receive voice messages on clean energy and may opt to be called back for more information.



Success & Learnings:

- This non-traditional approach necessitated sensitization and engagement with Refugee Welfare Councils and Local Council to establish trust. Considering the short window available for data collection, using a toll-free line posed the uncertainty of failing to generate sufficient calls from community members to generate evidence. This informed the decision to opt for push voice messages instead.
- In the early stages of the pilot, it was noted that the most commonly spoken languages in Zone 3 for both the refugee and host communities are Aringa, Juba Arabic and English. Kakwa which was earlier planned to be included is not widely spoken in the zone.
- Respondents who indicate willingness to be contacted will have their phone contacts shared with local vendors, trained by partner organizations to provide further information which will lead to the increased uptake of clean energy products and best practices.
- Respondents may otherwise choose to be linked to the 161 national toll free hotline to learn more about clean energy – although the language options here are limited.



Next Steps:

- If the pilot is conclusive, the scale up of this approach will consist of the establishment of a toll-free line, sensitization to a larger audience in the settlement, and connection with a dataset of information about a large range of clean energy retail points to avoid market distortions.

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D.Light and Village Power

Supporting private sector energy actors to enter refugee markets



Location:

- Kampala, Arua, Bidibidi settlement

Stages of Innovation:



Overview:

Globally, one of the greatest challenges facing refugees is the lack of quality, reliable, affordable, and clean energy sources - for both electricity and cooking. In Uganda, access to energy is only up to 15% at the national level with only 7% in rural areas.

In refugee settlements, the prevailing humanitarian approach has created a market distortion through free distributions that do not always meet quality standards, and preclude possible last-mile post-sale customer care and warranty. The existing quality energy solutions present in Uganda and available through private sector companies, often have high upfront costs that can be a barrier for displaced people who need to prioritize their limited revenue.

While the need for better energy solutions and potential impact of expanded energy access for refugees is clear, a “business as usual” approach has not yet worked to substantially and sustainably expand access to solar energy in refugee settlements, and is unlikely to take off in the future without intervention. Through a results-based financing scheme, with additional support aimed at resolving key demand and supply barriers, Mercy Corps supported D.light Design and Village Power to introduce solar energy products and services to the Bidibidi settlement,



4. Activities:

Analysis and understanding of demand and supply side constraints stifling energy access and low penetration of the private sector in Bidibidi settlement.

Co-design workshop with project partners to design intervention approach. Using data from the MasterCard Center for Inclusive Growth funded “Paying for Darkness” study, a private sector led Results-Based Financing intervention with two leading off-grid solar companies - Village Power Uganda Ltd and d.light Design Uganda Ltd was developed.

This includes a two-phased approach aimed at testing consumer payment behaviour and creditworthiness at various price incentive levels. Solar companies received a 60% and 50% incentive payment for each solar system installed under phases one and two respectively. For pay-as-you-go clients, the consumer then pays the remaining 40% and 50% over a 12-month period using mobile money or cash.

Awareness creation was conducted through community-level market-activations. Those events were used to drive sales and product knowledge. The establishment of customer service was promoted.

This was possible because of our community level approach of integrating key relationship structures like local leaders, women leaders and local sales agents for marketing. Sales pitches were targeted at women owned and led Village Savings and Loans Association to help increase women product knowledge and sales. Product demonstrations were organized at designated points within Bidibidi.

Product quality tests like drop-down test were done during the demonstrations. Village Power Ltd and d. light Design Uganda Ltd. have also set up and branded their distribution and service center at the Mercy Corps Innovation Center in Zone 3, which is funded by DFID as part of the BRIDGE Program. At the service center, they provide consumer education, warranty coverage, and after sales services.



Success & Learnings:

- Two solar companies – D.light Uganda Ltd and Village Power Ltd have established distribution channels in the Bidibidi settlement.
- 3,639 solar products (benefitting 2,270 households) were distributed.
- The capacities of the lanterns range from 0.3w to 2.8w; the PAYGo home systems from 10w to 120w and the productive systems are 3000w AC.
- Out of this number, 324 were PAYGo systems on a 12-month payment plan.
- Women bought 56% of the solar systems. 30 productive-use solar systems have been bought by small businesses on PAYGo plans; ten of which are owned by women



Next Steps:

- The results will allow AMPERE to leverage existing programming in Uganda and globally, taking stock from the lessons learnt and building on the specific organizational capacities of the consortium members for scaling up the initiative.

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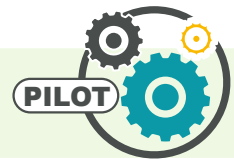
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GUEST INNOVATORS FROM THE SMART COMMUNITIES COALITION

The Smart Communities Coalition (SCC) is a public private effort seeking to transform the operating model in refugee camps and settlements Co-chaired by Mastercard and Power Africa, SCC will organize and mobilize stakeholders according to their core strengths to address three fundamental pillars: Connectivity, Digital Tools, Energy Access.

Energy & agroprocessing for livelihoods



Mandulis Energy is collaborating with UNHCR Uganda and LWF as part of broader energy access and livelihoods project in multiple refugee settlements in Uganda including: Adjumani, Lamwo, Kiryandongo, and Rwamwanja. The pilot working group seeks to empower refugee and host communities in several target refugee settlements by developing agro-processing and clean energy initiatives designed to increase productivity, farming and economic output with the goal of increasing household income generated and developing local market systems. Mandulis and UNHCR Uganda have installed a briquettes factory and are coordinating training of operators at the site in Olwiyo.

CONTACTS

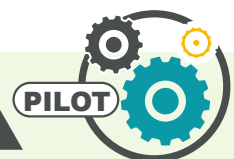


Peter Nyeko, Co-Founder & Managing Director

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Rwamwanja Mini-grids and Connectivity, Electricity, and Education for Entrepreneurship (CE3+) -



Clean energy-powered mini-grids and agri-business hub paired with Internet infrastructure

The project seeks to increase energy access for productive use through three renewable energy mini-grid and agri-business hubs and improve financial access and build skills through digital tools and connectivity. Tender documents for three mini-grids in the Rwamwanja, Uganda refugee settlement and host community were approved by the Ugandan government and issued by USAID Power Africa. Pending the final release of the tender results expected in 2020, Mandulis Energy and Accenture, are exploring the opportunity to develop a final design for the CE3+ model for Rwamwanja.

The model seeks to establish entrepreneurial hubs that provide improved, market-based energy and digital tools services in Rwamwanja, and with potential for replication in new settlements and host communities such as Rhino Camp.

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Local entrepreneurs to provide integrated services for energy, onnectivity, and digital tools



Through a special SCC grant window with USAID/Power Africa, USADF (United States Africa Development Foundation) to support for multiple local entrepreneurs to address energy access gaps, this pilot consists of:

- **Aga Great Works:** Installing a mini grid in Yumbe District in Uganda, near the Bidibidi settlement, to provide safe and reliable energy at an affordable cost.
- **Power Trust:** Promoting the use of productive solar energy through the creation of five business hubs in Kiryandongo and Bweyale refugee camps.
- **Raising Gabdho Foundation:** Providing a variety of sustainable energy solutions for residents of refugee settlements and host communities, to allow people to choose and engage in preferred energy solutions for lighting, cooking fuel, and energy productive use.
- **Solar Today:** Supporting trained youth in Rwamwanja refugee settlement to create small businesses using solar energy. Businesses include hair salons, internet centers, and phone charging stations.
- Additional grantees providing integrated services to settlements in Kenya, including Okapi Green Energy, Solar Freeze, and Yelele.

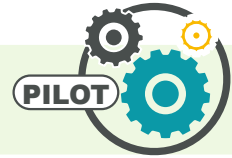
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Commercially viable solar home system deployment



A USAID-funded project through Power Africa that aims to provide a de-risking mechanism to encourage private sector PAYGO Solar Home System companies to expand their market reach into two refugee settlements and host communities. Three Solar home system companies were competitively awarded grants for targeted PAYGO sales in Rwamwanja and Kiryandongo settlements and host communities, BrightLife (FINCA), Fenix International, and SolarNow, with Green Powered Technology is the implementing partner. Sales are now underway with all three companies having opened storefronts and hired refugee camp and host community members as sales agents. In 2019, over 2,400 solar household systems were sold and over 130 individuals hired; the companies are working toward a goal of at least 10,000 sales.

CONTACTS



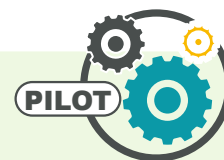
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OTHER APPLICANTS TO THE GREEN INNOVATION CHALLENGE FUND – SHOWCASING THE RUNNER UP

MARKET FACILITATION

ADAPT PLUS LIMITED



ADAPT + is a green social enterprise company incorporated in Uganda with a mission to provide appropriate technological and innovative solutions in the areas of energy and food security among smallholder farmers in Uganda. The company proposes to setup production of multi-fuel efficient stove “NYOTA” to address the core problem in energy-insecure situations especially the refugee settlements to help low-income beneficiaries to effectively use what is available around them to meet the pressing energy needs. The stove focuses on the biomass that is not targeted by most energy solutions – loose biomass, twigs, agricultural residues, dung etc, but can also efficiently use other traditional fuels like firewood, charcoal and briquettes and ADAPT+ will train the community in fabrication rather than distribute stoves.



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index.php/adapt-plus](http://www.npfug.com/index.php/adapt-plus)

Barefoot Power Uganda Limited (BFPU)



Barefoot Power Uganda is a Ugandan social enterprise focused on distributing Firefly™ solar lighting systems to people at the base of the global economic pyramid. Through a specialized “business in a bag” training program, dedicated entrepreneurs develop micro-franchises enabling them to earn a living distributing safe, affordable, healthy alternatives to kerosene and candles. Barefoot Power proposed to address the challenges in the settlements through direct marketing activities and creating awareness on affordable solar technologies, offering high quality and affordable solar lighting systems and capacity building of refugees and host community members to become micro solar distribution agents. Mobile vans will also be deployed to provide sensitization during events such as markets.



Joel Wetonyi, Country Commercial Director

joelw@barefootpower.com

Plot 31, Bukoto Crescent, Naguru,

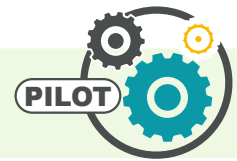
P.O. Box 34544 Kampala, Uganda.

info-ug@barefootpower.com

Website:

www.barefootpoweruganda.com

Elgon Solar



Elgon Solar is a for-profit enterprise with a distribution strategy that both intensifies awareness on the clean energy usage, climate action and related poverty intervention and as well magnifies sales of affordable solar lamps through the beneficiaries' networks within the vicinity of the refugees and their host community. The company does this by taking the solution nearest to the customer and intensively sensitize them on how to use it profitably and rewardingly through their specially-trained distributor agent-teams who collect detailed feedback on beneficiary impact and any technical queries. Elgon Solar team will organize weekly "Climate Action Campaigns" to mass sensitize Bidibidi's residents and business operators on how clean energy alternatives will better their lives and recruit sale agents within the community.



Paul Soddo, Managing Director, Elgon Solar, Mbale
xoddopaul@gmail.com

Website: www.facebook.com/pages/category/Energy-Company/Elgon-solar-power-solutions-2079997662013639/

Nile Development Foundation (NIDEF)



This proposal introduces the idea of mobilizing refugees and host communities into saving groups which can be used to pay for energy technologies in order to solve the problem of expensive upfront costs of energy technologies. The initiative will build capacity of some of the groups to serve as distributors and provide after-sale services. Collaboration with the private sector will be important to encourage investment or provision of end-user financing for delivery of renewable energy solutions. Such ideas may be new in and around Bidibidi Refugees Camp, but has been tested and worked well in other parts of Uganda especially in the Albertine Districts of Western Uganda.

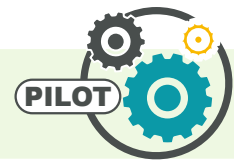


Dr. Isaiah Owiunji, Board Member,
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Munyonyo, Mawanga P.O. Box 3205,
Kampala, Uganda

Website: <https://www.facebook.com/Nicodefou>

West Nile Community Action for Rural Development (WN-CARD) (local actor proposing to make market facilitation)



WN-CARD is a Ugandan community-based, local NGP in West Nile, Uganda that supports the development of rural communities and refugees in the areas of environment and energy, education, sustainable agriculture, community health, and gender equality. WN-CARD proposed to carry out a survey of all sorts of clean energy products and compile a catalogue of certified or tested innovations for dissemination & deliver on-off catalytic interventions such as facilitating networking events and use of FM-radio messaging, including the local clean-energy market actors and supporting small-scale ones where appropriate with some small finances, knowledge and coaching.



Andruga John Daniels, Executive Director

info@wncard.org

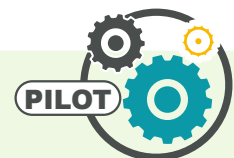
Plot 05 Mvara Oluko Road, Mvara Ward

Arua Hill Division, Arua Division

Website: www.wncard.org

ENTREPRENEURSHIP & ENERGY HUBS

Solar-powered entrepreneurial Hub by Giertsen



Giertsen Energy proposes to create a solar powered entrepreneurial hub, hosted in a warehouse - environmentally friendly - with their latest solar energy storage technology that lasts for about 40+ years. In addition to being a place where they can store technology, it can host 40-50 entrepreneurial female refugees' businesses and provide them access to a reliable power source, micro-financing, internet, and other essentials that enable them get a fair chance to set up a business and earning an independent income



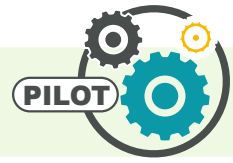
Erik Luttjehuizen, Country Manager Uganda

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Inayomba Rd 7, Bugolobi, Kampala

Website: www.giertsenenergy.com

Infrastructure for Sustainable Development (i4SD)



Energy poverty creates compounding negative effects in refugee settlements and host communities. i4SD is a global social enterprise focused on smart and connected infrastructure. It proposes to deliver solar kiosks that can serve as charging booths, with a smart meter so people can recharge their appliances, it will provide Wi-Fi, and food services with clean cooking gas.



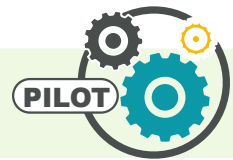
Joaquin Aviles Lopez,
Managing Director

avilop@i4sd.com

42 West St. Suite 216. Brooklyn, New
York, 11222. USA

Website: <https://www.i4sd.com>

Powah Hub



Powah, is a last mile distribution and community development company with a mission to provide access to products and services that will better energy, education, health, and entrepreneurial activities in refugee settlements in Uganda. The social enterprise is already providing solar lights to school children in Bidibidi refugee settlement. They have created our Powah Entrepreneur packages specific to the energy and management needs of businesses in the refugee settlements. The goal of Powah is to provide clean energy solar systems for productive use. They have identified businesses that can benefit from these products including store refrigeration, salons, and phone charging stations. Powah has determined vulnerable groups specifically women led, youth and people with disabilities will make up the first 30 entrepreneurs

In order for communities to be sustainable, there needs to be power for phone charging, lighting, refrigeration and much more. Our goal at Powah is to provide clean energy solar systems for productive use. We have identified businesses that can benefit from these products including store refrigeration, salons, and phone charging stations. Powah would be choosing 30 entrepreneurs and businesses. First Powah has determined set criteria for the first 30 who will be part of the project, these 30 will be from vulnerable groups specifically women led, youth and people with disabilities. These 30 businesses will be benefiting the overall community reaching a target of 1000 benefiterers per month.



Esteeeri Kabonero, Founder
and Managing Director

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UPCYCLING (PLASTIC) & SUSTAINABLE CONSTRUCTION

Ghetto Research Lab Limited



Ghetto Research Lab of Uganda develops innovative projects that improve the lives of impoverished residents while solving environmental pollution through repurposing plastics. The Lab proposed to carry out sensitization of refugee communities about utilization of affordable renewable energy resources and conservation of environment through recycling of domestic wastes like polythene bags and plastic bottles.



Mujuzi Patrick, Chief
Executive Officer

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Website: <https://borgenproject.org/ghetto-research-lab-of-uganda>

Green World Challenge



GWC addresses waste disposal in a better way by transforming it into expressive jewelry. Plastic waste is converted into useful materials that can be reused by breaking it down, and adding value to it through the design process, thus prolonging its life cycle and minimizing environmental impact and empowers people with the skill of turning waste into something of inherent value that can fetch them an income.



Isabirye Emmanuel, Founder
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HADOTO LANE, UPPER KAUGA,
MUKONO

Website: www.facebook.com/pages/category/Nonprofit-Organization/Green-World-Challenge-GWC-1936911706346370/

Haileybury Youth Trust (HYT)

**PROTOTYPE**

Haileybury Youth Trust (HYT) is transforming communities with its unique and proven approach of training for employment. HYT trains young Ugandans in an innovative, carbon-saving building technologies, giving them construction skills that improve education, opportunity and livelihoods. The organization proposed giving training and construction of environmentally friendly water tanks using sustainable Interlocking Stabilized Soil Block (ISSB) technology to increase access to rainwater harvesting in institutions such as schools and healthcare facilities while creating a pool of skilled masons from both the refugee and host communities.

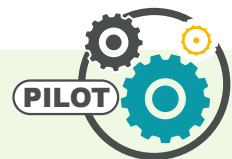


Edmund Brett, Area Manager

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Reform Africa

**PILOT**

Reform Africa is a social venture that utilizes waste plastic as a resource to manufacture and transforms plastic waste from different landfills into eco-friendly sustainable, durable and waterproof bags and accessories with a goal to recycle and to provide employment for unemployed youths in different areas. Reform Africa was founded in September 2018 by Aweko Faith, Naluyima Shamim and Mema Rachel, three young ladies joining the Social Innovation Academy in Mpigi that quickly realized they share the same passion about art and saving the environment.



Faith Aweko, Founder

awekofaith84@gmail.com

0757677015

Mpigi, Uganda

Website: www.reformafrica.org

Sina Loketa



ECOBUILDING is an environmental conservation start-up incubated by Sina Loketa in Bidibidi that is turning problems into job opportunities by focusing on upcycling plastic bottles to build houses of high value with positive societal and environmental impacts in Bidibidi communities. It uses bottles compacted with soil, instead of burning them creating pollution and health problems as well as releasing toxic pollutants into the air, land and water.



Sylvain Himbana
Co-Founder/ Executive Director

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Website: [www.sinaloketa.org/
viewprojecta.php](http://www.sinaloketa.org/viewprojecta.php)

LEARNING & SHARING

International Development Innovation Network - Uganda Chapter (Learning Lab)



IDIN seeks to provide a solution to allow continuous improvement, share knowledge, and increase market access among marginalized groups in the settlements. IDIN proposed to a model lab (in partnership with a local partner YSAT- Uganda) where the communities can gather and have to access tools, work on prototype technologies, and access information. The intent is to multiply knowledge, skills, and quickly influence behavior, and share success stories from energy and environmental champions in other refugee settlements in Uganda and across the globe.



Frank Morris Matovu, Innovation &
Business Development Lead.
idinugandachapter@gmail.com

Central: Plot 723, Nvule lane.
Kira Town Council, Wakiso District,
Website: www.idin.org

Photovoice



Mtafiti-stories is a registered organization that proposes to address the challenge of green energy using a methodology called photovoice, which provides a process that the people in Bidibidi can identify, represent, and enhance their community through a participatory specific photographic technique of telling stories by themselves focused on cultural and environmental issues to transform their community. The outstanding photos and stories taken are printed out and exhibited for social behavior change in the region.



Jim Joel Nyakaana

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Website: www.mtafiti-stories.com

DIRECTORY OF ADDITIONAL GREEN INNOVATIONS

Bio-Innovations Company Ltd



PROTOTYPE

Cookstoves & briquettes

Bio-Innovations Company tailored their solution to building a network of micro-scale briquette and stove producers, mainly refugee youth, women and local residents by provide them with training, raw materials, equipment, ongoing operational and marketing support to make briquettes and efficient stoves and sell them with an innovative model that engages the users as the producers with in the refugee settlements



Alex Tumukunde, Managing
Director

alex.tumukunde@gmail.com

Website: <http://bioinnovations-ug.org>

Located at JB Complex Wadengeya ,
Kampala

BUILD ME



PROTOTYPE

Market Access

BUILD ME is seeking to nurture entrepreneurs, start-ups and existing companies to tackle the primary obstacles to development of sustainable, climate resilient technologies which are finance and a limited market access in the fragile refugee settings with a Market-Oriented Approach solution to provide efficient, safe and clean energy through awareness campaigns, creating new distribution networks, as well as supporting the existing market structures and training of local entrepreneurs.



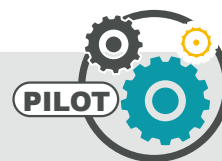
Ediru Stephen, Program Manager
Located Ebenezer House Kireka-

Namugongo Road, Kampala

bwirededeo@gmail.com

Website: www.buildme.org.ug

Charity Women's Group



Market access

Charity Women's group proposed to establish affordable energy shops in the settlements of Bidibidi and the surrounding towns to offer affordable briquettes, energy stoves and fireless cooking bags as well as engaging and empowering the entire communities in dialogues aimed at changing their behavior towards environment and adoption of alternative energy sources through radio and periodical community meetings, using drama both in schools and communities.



Jerry Kiwanuka, Project's manager Mokolo, Adropi Sub county Adjumani district
jerrykiwanuka@gmail.com

Creation Energy Limited



Solar

Creation Energy Limited suggested to demonstrate the existing affordable energy solutions on the market to the refugee and host communities and train them in commercial production of briquettes, packaging and in marketing, with the objective of establishing partnerships and commercial linkages with locals as distributors, agents, franchisees, as well as service providers with all existing off-grid solar companies.



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 Team Leader
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 Kampala, Uganda

jkakeeto@creationenergy.net
 173/174, AAA Building, Kyandondo Rd 2
 Website: www.creationenergy.net



Divine Bamboo

PROTOTYPE

Briquettes & tree planting

Divine Bamboo proposes to provide a local and cheaper alternative to firewood and charcoal. The innovator has developed a prototype of high quality, clean and affordable bamboo briquettes. Divine Bamboo intends to raise awareness about environmentally friendly practices for example selective harvesting of trees, use of energy saving cookstoves and use of bamboo as an alternative to firewood.



Divine Nabaweesi, Founder and
CEO
divine@divinebamboo.com

Located in Plot 1, Bulabira road

Website: www.divinebamboo.com

Environmental Conservation Trust of Uganda (ECOTRUST)



Cookstoves

ECOTRUST proposed a new renewable energy program to create awareness on affordable clean energy and offer clean energy solutions at a subsidized cost. The organization teaches refugees and host communities how to locally make and use energy cookstoves like Rocket Lorena and Mistovu energy cook stove.



Pauline Nantongo, Executive
Director

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Website: <http://ecotrust.or.ug>

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Lubowa Housing Estate, Palm
Avenue, Plot 1034, Hse No. 85

Environmental Management for Livelihood Improvement Bwaise Facility (EMLI)



Cookstoves and briquettes

EMLI looks to extend renewable energy techniques by conducting training on briquette making, disseminating improved cook stoves to refugees, and creating awareness on efficient energy technologies.



Robert Bakiika, Deputy Executive
Officer
bakiika@gmail.com

Plot 1725, Block 203, Bwaise-
Nabweru

Website: www.bwaisefacility.org

Fountainhead Institute of Management and Technology



Cookstoves & tree planting

Fountainhead Institute of Management and Technology proposed integration of sustainable strategies involving refugees and host populations with local and national government structures, entrepreneurs and the private sector to develop community-based capacity through partnerships and community awareness on environmental protection and benefits of energy saving stoves. Additionally, this would support tree planting and energy saving cook stove technology adaptation for the community.



Tom Okao, Director
fimt2000@gmail.com

P. O. Box 973, Lira, Uganda
 Amuca Village, Lira Sub county
 Website: www.fimat.ac.ug



PROTOTYPE

Global Agriculture Innovation and Solutions (GAIS)

Solar

GIAS deploys a community-level centralized smart solar mini-grid system which can generate and store its own renewable power and can be remotely monitored and managed as a sustainable solution to electricity poverty in rural communities to cater for the energy needs of productive, commercial and household users 24 hours, a day in a clean, cost-effective and sustainable way.



Mike Gaga Abe, Livelihood and Environment manager

mgaga@gaisinternational.org
 Located in Yambio South Sudan
 Website: www.gaisinternational.org

Green Global Consult Ltd



Solar, wind, biogas

Green Global Consult Ltd is a consulting organization focused on humanitarian settings. The specific area of focus is energy access for Refugees in Uganda and Northern Kenya, and setting up solar, wind and Biogas plants. Green Global Consult proposed using pico-systems, a solar charger for mobile phones, radio with LED lamp, for families to get basic electricity supply for the price range of 20-30 €. Solar chargers and lights will be produced and assembled locally, providing local jobs



Mathew Langol and Dr. Oliver Lang,
Managing Director and Co-founder

greenglobal66@yahoo.com
greenglobeconsultancy.com

Josa Green Technologies Limited



Cookstoves & briquettes

Josa Green Technologies company suggested to work with a blend of community women and youth as well as refugees to train them as production artisans in producing affordable, customized and compatible stoves and briquettes from the readily available materials to meet client's needs at affordable prices. The trained producers become franchise partners to share profits, to create ownership as an incentive to the trained local members.



Asiimwe Samuel,
Managing Director

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Magezi Energy Company



Cookstoves and briquettes

Magezi Energy Company proposed to make and distribute improved cook stoves and briquettes, from agricultural waste stoves and delivering briquettes to refugee homes on installment basis (pay as you go). In doing so the stoves are cheap and will build awareness about the dangers of using traditional cookstoves.



Tugume Clever, Head of
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tugumeclever123@gmail.com

Located in Mbarara, along Ntare Road
Website: [https://www.facebook.com/
pages/category/Energy-Company/Magezi-
Energy-Company-1813478642073501/](https://www.facebook.com/pages/category/Energy-Company/Magezi-Energy-Company-1813478642073501/)

North East Chilli Producers Association LTD



Cookstoves & briquettes

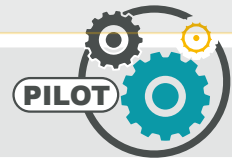
North East Chilli producers' Association is a consulting organization focused on improving and increasing household incomes of the people of Lango, Teso and Acholi, sub regions. The organisation proposed to introduce energy saving cook stoves and briquettes, and train the local artisans within the refugees and host communities to maintain and install the cook stoves while using waste to make briquettes, and using affordable local materials to ensure products are at an affordable costs for the refugees and the host communities.



Acham Hellen Ketty Elungat,
Executive Director
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P.O. Box 670 Lira Uganda
Website: www.necpaug.org

O' Bio-Digester



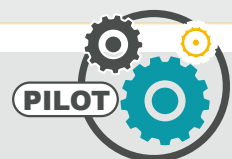
Biogas

The innovator proposed a user-friendly, cost effective and cheap to maintain sewer-based collection and treatment system called O' Biogester. It aims at using human fecal matter to generate household energy and replace the most common fuel locally used (kerosene and diesel) which are fossil-based refined fuels and potential carbon dioxide (CO₂) emitters to the atmosphere.



Dalilah Adnan Musasire, Team Lead
dalilahadnan7@gmail.com

Organic Bounty



Briquettes

Organic Bounty is a for-profit business with an objective to provide an eco-friendly sustainable energy source by setting up a waste management center in Bidibidi which will promote eco-friendly energy consumption to the community through education and provision of resources for appropriate waste disposal, and utilize the waste to make sustainable briquettes which can be offered to the residents at affordable prices.



Yvonne Namungoma
Director
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People Agency for Community Empowerment (PACE)



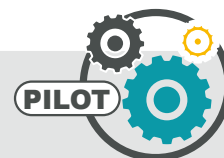
Cookstoves

PACE is located in Bidibidi resettlement and offers vocation skills and adult education to out of school people. PACE proposed a start-up venture to provide skills to the local community on how to manufacture energy saving cooking stoves locally.



Emmanuel Lokolia, Programme Manager
Yumbe District, Romogi Sub-county
moju.andrea2015@gmail.com

Union Networks Uganda



Market access

UNU is a social enterprise that has been running a clean cookstoves and fuels enterprise for the past 5 years, serving the bottom of the pyramid and off grid communities with last mile distribution capabilities. The enterprise partners with ENventures to do repair and maintenance through its energy ambassadors who are refugees and host community members.



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+256775007195
Located in Rwabudongo Road
Kiganda, Hoima

United Innovations Development Centre (UIDC)



Briquettes & entrepreneurship

With experience from working with GIZ and mission Incubation "Diversification, Entrepreneurship and Sustainability", UIDC proposed a mentorship training of trainers using simple training guide manuals for illustrations and simple business models to impact business. Utilizing the learning from their work with GIZ and Mission Incubation, UIDC proposed a "mentorship training" for trainers using simple training manuals with illustrations demonstrating business skills.

The intent is to empower the trainees with skills for the whole value chain to make simple stoves and briquettes from local available materials, as well as paper bags for packaging, and selling of dry briquettes to the surrounding communities. skills in the trained team members and empower the trainees with the skills for the whole value chain in making simple stoves and briquettes from local available materials as well as paper bags for packaging and selling of dry briquettes to the surrounding communities such as schools and other institutions within the camps.



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RESPONSE
INNOVATION
LAB



Save the Children



**MERCY
CORPS**

SNV



Netherlands Enterprise Agency



**DUTCH COALITION FOR
HUMANITARIAN INNOVATION**



**MINISTRY OF FOREIGN AFFAIRS
OF DENMARK**
Danida

