



Impact Capital
for Development



UNCDF'S ENERGY ACCESS WORK

UGANDA INVESTMENT PORTFOLIO
2015-2022

ABOUT UNCDF

The UN Capital Development Fund makes public and private finance work for the poor in the world's 46 least developed countries (LDCs). UNCDF offers "last mile" finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development.

UNCDF's financing models work through three channels: (1) inclusive digital economies, which connects individuals, households, and small businesses with financial eco-systems that catalyze participation in the local economy, and provide tools to climb out of poverty and manage financial lives; (2) local development finance, which capacitates localities through fiscal decentralization, innovative municipal finance, and structured project finance to drive local economic expansion and sustainable development; and (3) investment finance, which provides catalytic financial structuring, de-risking, and capital deployment to drive SDG impact and domestic resource mobilization.

UNCDF, in partnership with the Embassy of Sweden in Uganda, is managing the Renewable Energy Challenge Fund (RECF) in Uganda. RECF aims to fill in the "missing middle" in renewable energy SME financing by investing in early stage, high-risk ideas to set energy SMEs on a pathway for larger, more commercial-oriented capital. The following five principles are central to the RECF: 1) Additionality; 2) Sustainability; 3) Inclusiveness; 4) Results-orientation; 5) Co-creation.

The goal of RECF is to increase access to renewable energy for domestic, productive and social uses among underserved poor households especially in rural areas.







OUR WORK IN ENERGY

The UNCDF programme focused on energy contributes to achieving SDG 7 on affordable and clean energy for all, and SDG 8 focusing on decent inclusive work, economic growth and, more specifically, financial inclusion. The Programme aims to improve access to clean energy finance for poor and low-income people.

By partnering with energy and financial service providers and offering capital, data analytics, capacity building and policy advocacy services in the off-grid energy finance markets, UNCDF Energy has scaled energy business models for cleaner, efficient and more effective sources of energy for poor people.

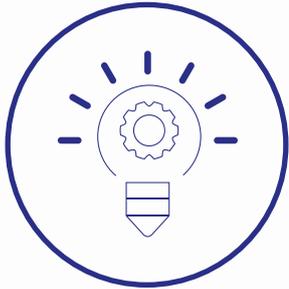
UNCDF Energy work is supported by:



THE GOVERNMENT
OF THE GRAND DUCHY OF LUXEMBOURG



OUR SERVICES



Investment
in Innovative
Solutions



Technical
Advisory Services



Knowledge &
Learning



Advocacy &
Partnerships



OUR RESULTS



786,000

Clean energy products sold
(60% women & 41% youth)



8,100

Tonnes of briquettes sold



566

Salaried jobs created
(43% women & 44% youth)



\$3.5 MILLION

Leveraged funds



1.49 MILLION

Tonnes of CO₂ emissions offset
(estimated)



197,000+

Tonnes of firewood saved



4,200,000+

People benefitted from clean energy solutions



\$5.6 MILLION

Cost-share by partners



OUR IMPACT ON THE SDGs



Energy products sold by partner companies reduce time spend on unpaid domestic work, including collecting firewood. These activities are mainly women-led tasks in the countries we work in. Clean energy solutions are also providing women income generation opportunities.



Access to energy supports poverty alleviation through fuel-efficiency gains leading to monetary and time savings, increased income generation through productive uses of clean energy, employment creation, and improved labour productivity.



Access to clean energy results in several health benefits. Customers, in our Uganda research initiatives, highlighted improved health as a key benefit they noticed with clean energy access. In addition, our investments have powered health clinics to ensure reliable electricity is available as they provide health services in their communities.





Our work fosters clean energy product uptake in least developed countries. The shift from traditional fuels, such as firewood, charcoal or kerosene directly contributes to mitigating deforestation and CO₂ emissions.



We partner across the spectrum to advance clean energy solutions. This includes working with government, private sector, and industry associations to create a clean energy ecosystem that leaves no one behind.



SDG 7 is our primary SDG contribution. UNCDF's energy access work invests in market-based innovative clean energy solutions. We foster access to electricity for underserved populations through off-grid solar products and clean cooking solutions.



Supporting the development of the clean energy market creates jobs. It also increased investment in the energy sector and overall GDP. At the consumer level, clean energy solutions can support productive endeavors.



A close-up photograph of a traditional charcoal stove (medija) with glowing embers and a person's hand holding the handle. The stove is a dark, circular metal container filled with charcoal. A person's hand is visible on the right side, holding the handle. The background is a plain, light-colored surface.

UGANDA INVESTMENT PORTFOLIO
CLEAN COOKING SOLUTIONS

LAST MILE CLEAN COOKING DISTRIBUTION WITH PAYGO TECHNOLOGY



Wana Energy Solutions



Prototype Stage



2017-2022

Most LPG companies sell on a cash basis and distribute only through petrol stations and super markets in urban centres. Wana Energy Solutions intends to convert the large percentage of Ugandans using charcoal and firewood to LPG which is clean and thermally efficient.

The RECF investment helped WANA introduce PAYGO installment and customer loans to expand LPG distribution through branches and door to door deliveries. This expanded access to clean cooking while reducing upfront cost burdens.



CLEAN COOKSTOVES FOR CREDITWORTHY READYPAY CUSTOMERS



Fenix International



Scale Up Stage



2017-2022

As one of the largest distributors of energy products in Uganda, Fenix can grow the rural cookstove market faster than any other organization. Given this market is primarily driven by word of mouth, if their customers adopt clean cookstoves, others will do the same.

This investment allowed Fenix to leverage their customers' credit scores to offer locally made efficient clean cookstoves, bundled together with solar home systems at a lower cost. The aim was to reduce the overall energy spend for customers. Reducing their spend on charcoal will increase their capability to pay off their solar home system and cookstove, making their current activities more sustainable through improved repayment and lower default.



CLEAN & AFFORDABLE ENERGY SOLUTIONS FOR SCHOOLS AND HOMES



Josa Green Technologies



Market Roll Out Stage



2017-2022

Josa Green Technologies uses the build-lease-maintain model. Through this model, Josa constructed fixed institutional briquette stoves with partner schools paying 25 percent of the construction cost.

Josa used this investment to construct 10 Briquette institutional cookstoves, and to install an automated briquette machine to increase the company's production rate.

By focusing on schools, which are the highest consumers of biomass fuel, this investment helped mitigate the impact of environmental degradation and climate change.



LOW COST COOKING ACCESS THROUGH ICT & LAST MILE DISTRIBUTION



Raising Gabdho
Foundation



Market Roll Out Stage



2017-2020

This investment allowed Raising Gabdho Foundation (RGF) to develop and use a mobile and web-based app to facilitate real-time data synchronization, enable registration of first time customers, place and track orders, and enable mobile money payments.

Women were a key part of the value chain as micro-entrepreneurs in this project. They were also engaged in cookstove production and collection of raw materials in communities. The RGF production facility also worked with urban refugees, enabling them to earn an income and meet some of their basic needs.



IMPROVED HOUSEHOLD CLEAN COOKING VIA SCHOOL NETWORKS

SIMOSHI



Simoshi



Market Roll Out Stage



2017-2022

Simoshi outsources institutional improved cook stoves (IICS) from manufactures and sells/distributes them to schools and other institutions. Simoshi packages and sells the carbon offset credits generated from the cookstoves; these funds are used for long term maintenance on the institutional stoves.

This investment helped schools and households through improved cook stoves that reduce the costs spent on fuel for cooking. The improved cook stoves also improve health by reducing household air pollution that result from open fires or inefficient cooking tools. In the long-term, the use of these clean cook stoves will reduce deforestation, as there is less demand for firewood and charcoal.



ALTERNATIVE FUELS FOR CLEAN COOKING IN RURAL COMMUNITIES



Green Heat Uganda



Market Roll Out Stage



2017-2022

Green Heat produces and distributes briquettes through women sales agents. The company also constructs biogas systems for institutions, like schools, and households with organic waste (e.g. two cows). The biogas system's waste is an organic fertilizer which can improve a household's vegetable output.

Green Heat hired sales staff, biogas masons, and women sales agents and trained them on sales, installation, entrepreneurship and book-keeping. Green Heat trained over 120 women sales agents who sold briquettes in market stalls around Kampala and Wakiso districts.



SCALE-UP OF HUB-AND-SPOKE DISTRIBUTION MODEL FOR IMPROVED COOKSTOVES



UpEnergy



Scale Up Stage



2019-2020

UpEnergy fights climate change and poverty while protecting local environments. We leverage carbon finance to develop products and retail networks that make cleaner technologies accessible to people in low-income countries. UpEnergy distributes high quality, affordable clean energy products such as cookstoves, water filtration systems and solar lights in Uganda.

With RECF support, the company expanded its distribution network by opening up new hubs and/or truck routes and added a third cookstove supplier to minimize product supply risk and hired regional marketing and sales representatives especially women and youth to increase its human resource capacity.



DISTRIBUTION OF CARBONIZED BRIQUETTES TO THE LAST MILE



Green Bio Energy



Scale Up Stage



2019-2022

Green Bio Energy (GBE), a Ugandan-based company, designs, produces and distributes innovative energy solutions to fight poverty, deforestations and climate change.

RECF supported expansion of GBE's distribution territory and infrastructure including building the capacity of a Community Based Sales Force in the new districts and developing a partnership to increase distribution of briquettes through Village Energy Savings and Loan Associations (VESLAs).



ACCESS TO AFFORDABLE, QUALITY, FUEL SAVING, AND CLEAN COOKSTOVES



BM Energy Saving
Equipment LTD



Scale Up Stage



2019-2022

BM Energy is a Ugandan clean cooking company which manufactures and distributes high quality energy efficient cookstoves for both households and commercial use. The cookstoves are distributed across the country through partnerships, route sales and agents.

The investment was used to improve product quality, establish regional distributors to improve the availability of improved clean cookstoves throughout Uganda and utilise digital solutions to for customer and agents' relationship and inventory management.



INCREASING STOVE ADOPTION VIA INTENSIVE DISTRIBUTION POWERED BY ICT TRACKING SOLUTIONS



Prime Energy &
Environment Savers LTD



Scale Up Stage



2019-2022

Prime Energy designs, fabricates and distributes improved cookstoves. Over the last decade, the company has made one of the most efficient and durable improved cookstoves in Uganda.

The investment supported the creation of new hub and spoke distribution model through regional central stores and agents (mainly women and youth) for a robust supply chain and increase market share in Western Uganda. The investment was also used to deploy digital tools to capture sales data in real-time; manage distributor performance reward campaigns and reduce stock outs.



ECOPRE-PAY PROVIDES COOKING AND LIGHTING SOLUTIONS TO RURAL AREAS



EcoGroup Ltd.



Scale Up Stage



2015-2022

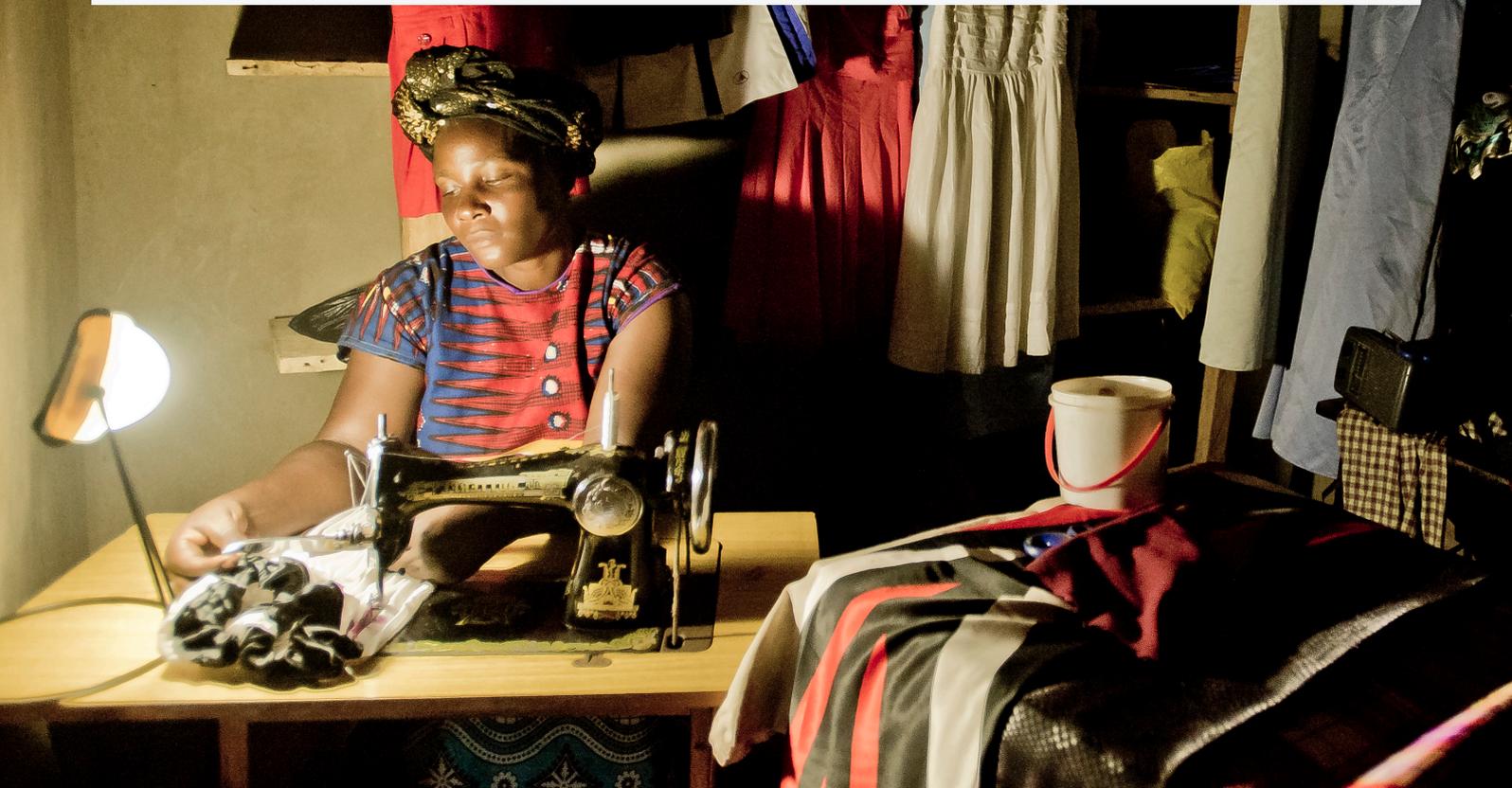
EcoGroup Ltd, a woman owned Ugandan company, manufactures eco rock clean cookstoves and assembles household solar kits for energy-poor households in Uganda. EcoGroup's innovative fuel, volcanic rock, is providing a viable alternative cooking fuel to be used with the Eco rock stove in the clean cooking sector. EcoGroup provides its improved cooking and solar energy package energy at an affordable price to households through an Eco Pre-pay. The customer of this clean efficient energy solution pays the same or even less that what they have been spending on the unclean alternative combined energies.

EcoGroup utilized the investment to begin liner production, recruit and train workers for liner production, engage more marketing and distribution partners, and hire additional management staff to improve operational efficiency.



UGANDA INVESTMENT PORTFOLIO

OFF-GRID ENERGY SOLUTIONS



GROWFAST UGANDA



Azuri Technologies



Market Roll Out Stage



2018-2021

Azuri Technologies provided an innovative solar irrigation solution, bundled with a solar home system (SHS)/ smartphone package made affordable through PayGo technology and micro-insurance. This offering was designed to improve productivity, income generation opportunities, and living standards of smallholder farmers.

Azuri's customised PayGo plan allowed farmers to pay for the product suite out of the increased profits from additional harvests.

To reduce the risk associated with crop failures, Azuri's irrigation solution – "GrowFast Uganda" included micro-insurance.



EXTENDING OFF-GRID SOLAR ENERGY TO SSESE ISLANDS



GRS Commodities Ltd.



Market Roll Out Stage



2018-2022

GRS expanded solar energy to the Ssesse Islands via installations of 25kW solar mini-grids, offsetting costs by selling locally-made, lower-cost flaked ice to island fishermen and using PayGo technology to make energy affordable for low-income households and small businesses.

GRS called this innovative business model the ABC model, where: the flaked ice business served as Anchor-load (A) off-taking 30-40 percent of the mini-grid's energy, and the small businesses (B) and households (C for Consumers) used the remainder.



PAY-N-PUMP



Aptech Africa



Market Roll Out Stage



2018-2022

Aptech Africa created a small-scale PayGo solar powered water pump that it piloted in Northern Uganda with Farmers Groups for irrigation applications for crop development and water for households.

The combined use of mobile technology with remote access and monitoring of the pumps enabled farmers to purchase the pumps with an affordable down payment, and then pay for the pumps in installments set up to be aligned with the local harvest season.



AFFORDABLE SOLAR MILLING MACHINE FOR RURAL FARMERS



Power Trust Uganda Ltd.



Prototype Stage



2018-2022

Power Trust piloted and scaled a multipurpose solar system used for lighting and to power maize mills and other income generating activities like phone charging.

Affordable, solar powered machines designed to add value to vitally important staple foods and to generate income for small holder farmers as well as increasing economic activity in rural areas.



SOLAR-POWERED PAYGO REFRIGERATORS FOR HOMES & MSMEs



M-Kopa Solar Uganda



Prototype Stage



2018-2022

M-KOPA and Embraco (the Whirlpool Group), for the first time, sold an affordable (PayGo) solar-powered refrigerator in Uganda designed specifically to meet the needs of low- income, off-grid customers. M-KOPA's fridge runs on less daily energy than a 60-watt lightbulb, can withstand 1.5 days without sun, and is affordable to low-income customers.

This innovation provided an affordable cooling solution for small businesses and provided the opportunity for cooling to be introduced into a number of important agricultural value chains where it is most likely to create greatest impact for low income customers – on-farm and at the small outlet retail point of sale.



LENDING TO HIGH-QUALITY PAYG SOLAR PRODUCT DISTRIBUTOR



Venture South Uganda



Market Roll Out Stage



2018-2022

Venture South extended financing to high-potential and viable solar companies with strong products but who lack access to financing, to accelerate the delivery of off-grid solar energy to Uganda and the region.

Venture South's solution was to establish a "fund" to provide smaller, end-use loans to customers of viable solar companies that were selected through a stringent vetting process.

These companies entered into a loan agreement for Venture South to buy their receivables, which in turn freed up much needed working capital for their growth and expansion needs.



ACCESSIBLE AND AFFORDABLE PAYG SOLAR FOR THE 'EXPANDED NORTH' OF UGANDA



Greenlight Planet
Uganda



Scale Up Stage



2018-2022

Greenlight Planet Uganda Ltd. scaled up an inclusive and broad-based PayGo solar model in the 'Expanded North' to facilitate its off-grid product dissemination to improve clean energy access for households.

Greenlight Planet wants the last mile in the 'Expanded North' to contribute as much as 45 percent of its sales volume, an increase from the current 23 percent volume.

Affordability for the product and services was achieved through innovative product pricing and positioning.



PAYGO CUSTOM SOLAR INSTALLATIONS FOR RURAL INSTITUTIONS



Village Energy LLC



Market Roll Out Stage



2018-2022

Village Energy custom-designed PayGo solar solutions, large and small, with remote monitoring and aftersales support for rural businesses, agriculture and community institutions/NGOs, leading to improved rural livelihoods, job creation, and expanded/improved beneficiary services.

This investment provided resources for rural staff training, management, marketing and operating costs.



ENERGY FOR ALL: INNOVATIVE FINANCING FOR SOLAR HOME SYSTEMS



d.light



Scale Up Stage



2019-2022

d.light is a global social enterprise with an ambition to bring safe, bright, clean lighting and power to millions of people around the globe. The company provides distributed solar energy solutions for households and small businesses that transform the way people use and pay for energy.

The investment was used to build a last mile distribution and sales infrastructure with a dedicated full-time sales force, and commission-based agents to support promotion and sales of solar products to remote and far to reach peri-urban and rural farmers across Uganda.



EXPANSION IN THE NORTHERN REGION TO REACH SUSTAINABILITY



BrightLife



Scale Up Stage



2019-2022

BrightLife, a FINCA International founded Ugandan social enterprise unlocks economic productivity and well-being for poor and low-income households by bringing together access to finance and access to energy.

The company provides education, distribution, financing and after-sale support for products such as solar lanterns, solar home lighting systems, solar appliances and improved cook stoves.

The investment will support expansion of sales operations in Northern Uganda, a critically underserved region in the country.



LEVERAGING AGENTS FOR LAST-MILE DISTRIBUTION FOR SOLAR



Anuel Energy Uganda Ltd.



Scale Up Stage



2019-2022

Anuel Energy imports, sells, and distributes high quality solar lanterns, plug and play kits and customized solar systems for household, commercial and institutional customers through its network of branches agents and partnerships.

The investment will be used to enhance the last mile distribution coverage through expanding its agent's network and deploy digital solutions to improve operating efficiency and reduce costs.

The digital solution will provide the real-time available information to closely link stock management, business operations, orders, customer payments and manage agents' sales and commissions.





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