EEP AFRICA
NEW PORTFOLIO 2021
Clean Energy Powering Green Growth
EEP Africa is hosted and managed by the Nordic Development Fund (NDF) with funding from Austria, Finland and NDF.

Millennium Engineers is a local start-up bringing solar-powered LED lamps to night fishermen on Lake Victoria.
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**About the New Portfolio**

The Energy and Environment Partnership Trust Fund (EEP Africa) has been a driver of the clean energy transition in Africa since 2010, investing over EUR 50 million in 274 pioneering projects across 15 countries.

EEP Africa supports private sector-led clean energy projects with early stage finance, business development support and market knowledge in Botswana, Burundi, Eswatini, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, Seychelles, South Africa, Tanzania, Uganda, Zambia and Zimbabwe.

EEP Africa contributes to the Paris Climate Agreement and Sustainable Development Goals by enhancing clean energy access, development and investment, with a focus on poor and underserved groups. Since 2010, projects funded by EEP Africa have created close to 9,500 jobs, improved energy access for more than 5 million people, and reduced or avoided close to 1.5 million tonnes of CO₂e.

This booklet profiles the companies added to the EEP Africa portfolio through a competitive call for proposals in 2020 focused on powering green growth through productive use of energy and circular economy. The call attracted 357 applications, over 75% of which were submitted by locally registered companies.

The 26 projects featured here will be implemented in 12 countries and represent a total financing commitment of EUR 8.3 million. The new portfolio is composed mainly of start-up companies (81%) and includes a significant number of locally-led (62%) and women-led (38%) businesses. A majority of the projects utilise solar power (62%) and most support productive use of energy (77%). The projects began implementation in 2021.

The projected results from this new part of the portfolio are presented to the right, representing key impact indicators from the EEP Africa results framework.

EEP Africa is a multi-donor trust fund supporting early-stage clean energy projects in Southern and East Africa. It is hosted and managed by the Nordic Development Fund (NDF) with funding from Austria, Finland and NDF.

### Projected Results for the New Portfolio

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct jobs created</td>
<td>2,600 (43%) for Women</td>
</tr>
<tr>
<td>People with enhanced energy access</td>
<td>68,000</td>
</tr>
<tr>
<td>Annual savings on energy-related expenditure</td>
<td>€7.7M</td>
</tr>
<tr>
<td>CO₂e emissions reduced or avoided per year</td>
<td>105,000 tonnes</td>
</tr>
<tr>
<td>Clean energy generated per year</td>
<td>25,000 MWh</td>
</tr>
<tr>
<td>Women in leadership</td>
<td>37%</td>
</tr>
<tr>
<td>People with enhanced energy access</td>
<td>68,000</td>
</tr>
</tbody>
</table>

**CO₂e emissions reduced or avoided**

**Clean energy generated per year**

**Annual savings on energy-related expenditure**

**Direct jobs created**
E-BOARDERS ON LAKE VICTORIA

This project aims to replace highly polluting petrol engines on fishing boats in Lake Victoria with electric alternatives powered by renewable energy. Existing fishing boats will be retrofitted with electric outboard engines through an affordable leasing model. Local fishers will have access to a full-service “propulsion-as-a-service” model on a PAYG basis and at a cost 20% lower than petrol. This will have a positive economic impact on low-income fishers and will reduce both GHG emissions and oil spillages. EEP Africa financing will enable ASOBO to pilot this innovative e-mobility technology and business model on African lakes.

Outcome and Impact
For every 100 petrol motors replaced by ASOBO e-Boarders, more than 1,000 tCO₂e is saved per year, which is equivalent to taking 300 cars off the road. In this pilot project, ASOBO aims to retrofit 89 boats, reducing 783 tCO₂e and saving fishermen a total of EUR 11,673 in energy costs per year. The project aims to create 88 new jobs, with 50% of leadership positions filled by women.
SOLAR EGG INCUBATORS IN ZIMBABWE

This project aims to increase the productivity of poultry farmers in rural Zimbabwe by installing high-performing solar egg incubators. The technology improves egg hatching, thus increasing farmer output and improving food security. Clamore will target households, entrepreneurs and MSMEs through partnerships with local farmer associations. The project will also provide after-sales support and access to financing and markets. A PAYG version of the incubator is being developed and Clamore plans to use this pilot as the basis to expand distribution of other agricultural productive use equipment. EEP Africa financing will enable Clamore to integrate PAYG into its product and reach a lower-income customer segment of the poultry value chain.

Outcome and Impact

The project aims to install 500 solar egg incubators, the majority of which will have capacity for 99-144 eggs with a 250 W solar PV array and 1200 Wh battery capacity. The project will enhance access to productive use of energy for 2,100 people. Since the poultry value chain is predominantly comprised of women, the project will also provide income-generating opportunities for local women.
This project aims to develop a solar-powered charging station in Nairobi for the electric vehicle (EV) taxi service NopeaRide. The new solar charging hub will consist of an EV parking and battery charging area, with 160 kWp solar PV panels on the roof. The clean energy produced has the potential to power up to 1.4 million kilometres with lower operating expenses, enabling EkoRent to increase the number of NopeaRide drivers and expand its serving radius. Excess electricity from the hub is expected to be traded to a local off-taker, such as a shopping mall. EEP Africa financing will support a pilot solar charging station and allow EkoRent to determine the precise technology and strategy for larger scale roll out across East Africa.

**Outcome and Impact**

The solar charging station will make the NopeaRide service even more clean, affordable and sustainable. By generating 208 MWh/year of renewable power for electric cars, this project will reduce emissions by 252 tCO$_2$e annually and lower air and noise pollution. EkoRent aims to create over 700 jobs and offer taxi drivers higher income earning potential.
This project will provide solar-powered cold storage for fish traders at Lake Victoria. ENdep will install a prefabricated and insulated container with capacity to store 20 tonnes of fish in Mwanza, Tanzania. The 12 kW solar-powered cold space can reduce post-harvest loss by 80%. ENdep’s innovative product-service system business model provides easy access and efficient logistics for local fish traders to rent space in the unit at an affordable price. The project will also promote a circular economy through recycling and wastewater treatment solutions, EEP Africa financing will enable ENdep to demonstrate the viability of shared cold rooms for smallholders to store fish, meat, poultry, dairy and horticultural crops.

Outcome and Impact
The project will provide access to refrigeration services and reduce post-harvest loss for over 240 fish traders in Tanzania. Priority for rental space will be given to women and youth, facilitating entry into the fish trade and improving their economic livelihood. The system will generate 105 MWh of clean energy per year and reduce greenhouse gas emissions by more than 7,230 tCO₂e.
This is a feasibility study for an integrated productive hub concept for off-grid and weak-grid communities in Mozambique. Gommyr Power will develop plans for a solar-battery microgrid-powered business park providing productive use energy and critical services to commercial and industrial clients. The GoHub concept aggregates and centralises energy demand to achieve sufficient scale for a power system to be economically and operationally viable. GoHubs use the on-site energy to provide services such as water, sanitation, telecoms and security, enabling businesses to operate more effectively. EEP Africa financing will support the planning, design and evaluation of the system specifications and business model.

**GOHUBS MOZAMBIQUE: PRODUCTIVE SOLAR MICROGRID HUBS**

**Project Developer**
Gommyr Power

Gommyr Power is a Greek start-up company that specialises in microgrids, localised renewable generation and energy storage.

**Total Project Budget**
EUR 321,398

**EEP Africa Financing**
EUR 219,576

**Project Partners**
Dominio Capital Group
Mozambique

**Type**
Feasibility study
Mini-grid stand-alone

**Project Code**
MOZ16372

**Location**
Mozambique

**Outcome and Impact**

The objective of the feasibility study is to make the GoHubs project implementation and investment ready. When fully implemented, GoHubs will add 0.6 MW of renewable energy generation capacity, generating 960 MWh/year and avoiding 1,200 tonnes of CO₂e emissions. The business park will promote economic development by empowering local businesses and entrepreneurs to create jobs and generate green growth.
MARKET FOOD WASTE TO BIOGAS ENERGY

This project will pilot an innovative distribution model for waste-to-energy at a vegetable market in Malawi. GIT will establish an energy hub (eHub) at the market that converts biodegradable waste into biogas. The clean energy will be stored and distributed in refillable biogas bags to local households, restaurants and businesses. The biodigester will also convert bio slurry into organic fertilizer that will be sold to smallholder farmers.

In addition, the eHub will distribute a range of clean energy technologies to surrounding communities, such as PAYG solar water pumps, solar home systems and improved cookstoves. EEP Africa financing will enable GIT to set up the biodigester and refilling hub in order to test this business model.

Outcome and Impact

The project will provide a circular economy solution for a local vegetable market. The installed biogas system will generate 0.31 MW of clean energy and reduce 1,909 tCO₂ emissions during the life of the project. The project will primarily employ women to collect feedstock at the market, manage the eHub and distribute the biogas.
KUNI POA, MAISHA POA: ACCESS TO CLEAN ENERGY BRIQUETTES

This project will replicate a clean cooking business model developed in Arusha in the larger market of Dar es Salaam. HannyG uses a binder-less briquetting technology to transform agricultural waste into "white coals" that are ideal for industrial boilers. The Kuni Poa briquettes are sold to school, restaurants and businesses in a package plan with affordable cookstoves. The company has already demonstrated its business model without external funding and is ready to expand operations. EEP Africa financing will enable HannyG to increase manufacturing capacity to 3,600 tonnes of briquettes per year and move into a larger market.

Location
Tanzania

Outcome and Impact
The project will expand access to briquettes that are cheaper, longer-lasting and produce more heat than firewood or charcoal. This will reduce deforestation, lower health risks and generate cost savings of 35-50% for customers. The project is estimated to reduce 38,300 tCO₂e emissions and create 100 jobs, with 72% of the leadership positions held by women.
BEYOND CHARCOAL: HEALTHY COOKING WITH BIOMASS PELLETS

This project will enhance access to clean cooking in Burundi by increasing the production capacity of a biomass pellet plant. KTF Concept will add 200 KW of solar power and a pellet machine to its production facility. This will address challenges due to power outages and raise capacity from 1 tonne to 10 tonnes per day. The pellets, made primarily from rice husks, will be sold with a pyrolytic cookstove also manufactured on-site. The project will provide microfinancing and post-sales service to low-income customers. With EEP Africa financing, KTF Concept will be able to demonstrate its holistic cooking solution and reach more households.

Outcome and Impact

The switch to cleaner fuel and more efficient cookstoves will improve household health and safety in rural Burundi. The project aims to create 40 jobs and provide access to clean cooking for 27,645 people. This would reduce 62,570 tonnes of CO₂e emissions per year and generate annual cost savings of EUR 108 per customer.
BIOENERGY POWERING AGRICULTURE AND RURAL LIVELIHOODS (BEPeARL)

This project aims to demonstrate an innovative technology and business model for converting agricultural waste into electricity and biogas for households and small businesses. A Ugandan aggregator and processor of farm produce will provide feedstock and serve as the anchor client. The electricity generated by the installed biodigester will power grain mills at the agro-processing facility, as well as a microgrid for local households. The biogas will be stored in pressurised gas cylinders and sold to schools, hospitals, businesses and households for cooking. EEP Africa financing will enable Mandulis Energy to cover the high capital expenditure required for the digester and mini-grid.

Project Developer
Mandulis Energy
Mandulis Energy is a Ugandan-founded company that develops renewable energy projects in emerging economies and deploys new technologies and approaches to address the energy access ‘trilemma’.

Total Project Budget
EUR 1,675,900
EEP Africa Financing
EUR 500,000
Project Partners
REPARLE Ltd., HoST BV
Type
Demonstration project
Mini-grid stand-alone
Project Code
UGA16793
Location
Uganda

Outcome and Impact
This project will demonstrate a circular economy model that improves the income of 4,000 small farmers, of which 50% are women. Affordable electricity will be provided to 75 households, public entities and C&I clients and cooking gas will be sold to 550 customers. By displacing diesel, wood and charcoal, the project expects to reduce 4,555 tonnes of CO₂e emissions per year and generate significant savings on energy-related costs.

Technology
Biogas
Waste-to-Energy
SOLAR SARDINE FISHING ON LAKE VICTORIA

This project will improve the productivity of the low-income sardine fishing industry at Lake Victoria. Millennium Engineers will replace kerosene lamps for night fishing with solar-powered LED lamps and establish sardine drying facilities that use a combination of solar and wind power to significantly shorten the drying cycle. The project aims to distribute 400 solar lamps and establish efficient drying facilities on two island sites and on the mainland in Mwanza. In collaboration with partners, Millennium Engineers will conduct capacity building and skill training to integrate more women into the fishing value chain. EEP Africa financing will enable this start-up to develop its business model and attract commercial financing.

Outcome and Impact

The switch away from kerosene lamps will improve health and food security by reducing respiratory problems and fish contamination. At full sales the project is expected to reduce CO2e emissions by 1,972 tonnes. Lower costs for fuel will increase margins and income for 1,000 fishers, stimulating economic development in their communities. The project will also create more income opportunities for local women.
OFF-GRID RENEWABLE ENERGY RURAL MOBILITY PLATFORM

This project will scale up an e-mobility pilot in Zimbabwe providing electric three-wheeled vehicles to rural customers, mainly women, on a rent-to-own and lease basis. Mobility for Africa’s e-tricycles are optimised for local conditions and can carry up to 400 kg, which improves access to markets and services for smallholder farmers and entrepreneurs. The vehicles run on bespoke long-life batteries charged by renewable energy. EEP Africa financing will enable Mobility for Africa to establish two solar-powered charging stations and set up a fleet management system with small scale dairy farmers in Chipinge District and with egg producers in Goromonzi District.

Outcome and Impact
The project will establish two charging stations for participating vehicle owners and roll out 150 e-tricycles. The e-tricycles will also have the capability to power off-grid agri-related appliances. The project will advance productive use of energy in rural communities and improve access to markets and income opportunities for women.
PRODUCTIVE SOLAR ENERGY FOR DAIRY FARMERS

This project will pilot a solar-powered refrigeration and milk storage solution for dairy farmers in Western Uganda. Of the country’s 2.5 million small dairy farmers, 85% lack access to affordable cold storage, resulting in spoilage and significant losses in earning potential. OneLamp’s system consists of a 650W solar home system with lithium battery, bundled with LED lights, a television and a 402 litre milk cooler. Each unit provides capacity for up to 10 cows. Dairy farmers can purchase the system through an affordable, mobile-enabled lease-to-own model. EEP Africa financing will enable OneLamp to expand market coverage and broaden its product and service offering.

Outcome and Impact
OneLamp aims to distribute 200 units, with at least 50% sold to women-led dairy farms as early adopters. The systems directly contribute to increasing income earning opportunities and improving productivity through value-added dairy products such as yoghurt and butter. The annual savings on energy-related expenditure are expected to be EUR 9,170 per dairy farm. The project has significant potential for scale-up.
UNLOCKING PRODUCTIVE USES OF ENERGY FOR WOMEN IN LESOTHO

This project aims to advance inclusive and productive use of energy through a women-led productive use of electricity company (PUECO) in Lesotho. The PUECO will support the creation of women-owned local enterprises and develop a last-mile supply chain for energy efficient appliances in three communities served by OnePower solar mini-grids. The PUECO will provide local women entrepreneurs with training and starting capital to become anchor customers for the mini-grids. Local women will also be recruited to retail energy efficient appliances. EEP Africa financing will enable One Power to pilot this model and demonstrate the value of integrating a PUECO with mini-grid construction.

Outcome and Impact

The project will support 12 women entrepreneurs to create energy-enabled businesses in three communities, serving a population of more than 5,000 people. The project also aims to distribute over 450 energy efficient appliances and create 40 new jobs, with 70% earmarked for women. If successful, this model will be replicated and scaled-up to 10 new mini-grids that OnePower is developing in Lesotho.
PAYGO SOLAR EGG INCUBATORS FOR SMALLHOLDER FARMERS

This project aims to improve the efficiency and productivity of the poultry value chain in Kenya. OVO will leverage local PAYGO distribution networks to bring solar-powered egg incubators to off-grid smallholder farms, with a focus on women farmers. The affordable solar incubators enable farmers to raise more chickens, which improves food security and increases income for rural families. This technology is innovative in the local market and has potential to be a driver of economic growth. The project will also provide training and facilitate access to markets. EEP Africa financing will enable OVO to test the technology at sufficient scale to assess the impact on farmer welfare and further develop the business model.

Project Developer
OVO Solar Technologies

OVO is a Canadian start-up that aims to empower smallholder farmers by providing affordable, income-generating products that will help break the cycle of poverty.

Technology
Solar PV

Outcome and Impact

The project aims to distribute 1,000 products to help farmers diversify their income and improve climate resilience. Each OVO solar egg incubator is equipped with a 30W solar panel and consumes just 120 Wh/day. At target sales the project will result in energy savings of 219 MWh/year and reduce greenhouse gas emissions by 62 tCO₂e/year. OVO will focus on women-to-women sales and 70% of direct jobs created will be targeted for women.

Location
Kenya

Total Project Budget
EUR 368,210
EEP Africa Financing
EUR 257,502

Project Partners
Mwezi
Eggpreneur

Type
Pilot project
Stand-alone

Project Code
KEN16509
This project aims to introduce intelligent solar-powered cooling solutions to improve food safety, reduce waste and increase income among small-scale farmers in Zambia and Tanzania. Phaesun will install cooling systems based on the SelfChill concept to cool dairy (milk tank), agricultural products (cold room) and fish (ice maker). These demonstration units will provide services to agricultural cooperatives through a PAYG system. The project also aims to sell smaller cooling systems and units to local smallholder farmers. EEP financing will enable Phaesun to establish local assembly lines and provide technical training through partners to develop local capacity in design, assembly, installation and maintenance of solar cooling solutions.

Outcome and Impact

The project will provide access to chilling services to over 160 smallholder farmers, ensuring less waste due to spoilage, better agricultural efficiency and improved food safety. The systems will generate 73 MWh of clean energy per year and reduce GHG emissions by at least 52 tCO₂e. The project will provide training and create local jobs, significantly contributing to capacity building in the clean energy sector in Tanzania and Zambia.
TRANSFORMING WATER HEATERS INTO INTELLIGENT BATTERIES

This project will pilot an innovative technology that transforms household water heaters into intelligent thermal batteries for smart, clean energy. Electric water heaters waste half the energy they consume and drive up demand at peak times when solar is not an option. This contributes to South Africa’s erratic, polluting and costly energy. Plentify’s HotBots are smart devices that turn water heaters on only when needed and at optimal times for the electric grid. This shift in energy consumption improves efficiency and boosts solar capacity for municipalities. EEP Africa financing will enable Plentify to expand its pilot project in Cape Town and demonstrate the environmental impact and economic value of the new technology.

Outcome and Impact

The project will deploy HotBots into 500 homes in the City of Cape Town. Every HotBot saves 1 MWh in energy and 1 tonne in CO₂ emissions per year. This project brings together public and private partners to improve energy reliability and efficiency in South Africa. This will accelerate the adoption of renewable energy and reduce the cost of electricity and hot water for households and businesses.
CATALYSING UPTAKE OF WASTE-TO-ENERGY IN KENYA

This project will scale up an existing waste-to-energy plant in Kenya through a public-private partnership with the local sewage provider. Sanivation uses an innovative circular economy approach in the conversion of fecal sludge to solid fuel briquettes. The plant will be expanded to 12 times its current capacity and the briquettes will be sold to schools, tea and dairy farms, textile and cement factories, and other local businesses. EEP Africa financing is expected to have a catalytic impact in unlocking public and private investments by demonstrating the commercial viability of a waste-to-energy factory at scale.

Outcome and Impact

The project will generate 7 MW of clean energy and reduce over 38,000 tCO₂e emissions. Briquette customers are estimated to save up to 38% in energy related expenditures. The project will create over 200 jobs and 50% of the Sanivation sales team are women. The business model has high potential for rapid scale-up across Kenya.
This project aims to strengthen the agricultural value chain in Kenya through a cold-storage-as-a-service business model. SokoFresh will pilot an integrated approach to refrigeration, aggregation of produce, food processing and market linkages for smallholder avocado farmers. The project will install six containerised, solar PV cold storage units and two solar-powered avocado oil extraction facilities. Farmers will have access to these facilities on a rental basis and be connected to buyers and markets for a small service fee. The project will be implemented in partnership with Enviu, Avomeru and Ecozen. EEP Africa financing will enable SokoFresh to test this pay-as-you-store model, with the goal of scaling up to fill a clear market gap.

Outcome and Impact

The project expects to improve the avocado value chain from collection to market through productive use of clean energy. The cold storage and processing facilities will reduce food losses and improve the quality and value of products reaching the market. This will reduce the strain of agriculture on the climate and increase farmer income by 30-50%.
This project will pilot a decentralized smart grid based on interconnecting solar home systems (SHS). Solarworx and its local partner LittleSun will install SHS that can be stacked like Lego bricks in high-density communities. These will then be connected to form a decentralized 60V solar smart grid. The solution enables power trading between producers of excess electricity and consumers. This power trading supports productive use appliances (up to Tier 4) across the grid. The cost for each connection is considerably lower than for AC mini-grids, enabling bottom-of-the-pyramid households to receive a grid-like electricity connection. This innovative technology has been tested in the lab and EEP Africa financing will enable it to be piloted in a real operating environment.

Project Developer
Solarworx
Solarworx is a German manufacturer of modular off-grid solar products that provide reliable, affordable and sustainable energy solutions to rural households and entrepreneurs.

Total Project Budget
EUR 310,095
EEP Africa Financing
EUR 208,680
Project Partners
LittleSun Zambia
Type
Pilot project
Mini-grid stand-alone
Project Code
ZAM16986
Location
Zambia

Outcome and Impact
The project aims to distribute up to 300 SHS/connection points to rural households, which will upgrade SHS owners to small-scale independent power producers (prosumers) and extend access to higher tiers of electricity in the community. With 45 kW clean energy capacity, this project will reduce GHG emissions by 100 tCO₂e per year. The partners aim to recruit 50% women sales agents.
ACCELERATING THE ADOPTION OF SOLAR-POWERED REFRIGERATION

This project aims to expand the use of solar refrigeration appliances in off-grid areas of Namibia. Taatisolar will scale-up sales to rural and peri-urban households and institutions, facilitated by financing options such as micro-lending and hire-purchase solutions. The innovative refrigeration technology can be used for a range of services, from food preservation to vaccine storage, and the project will pilot refrigeration solutions in 25 rural health clinics. Taatisolar will engage women’s cooperatives to promote stand-alone solar refrigeration, and will target women-run micro-shops as potential clients. EEP Africa financing will enable the company to reach rural clients and health clinics with novel marketing approaches.

Outcome and Impact

The project aims to sell 250 solar refrigeration units in rural and peri-urban communities. At full scale, the project expects to save 46 MWh per year and reduce over 900 tCO₂ emissions.

The project will improve health outcomes by piloting solar refrigeration for vaccines and medicines at off-grid clinics. Local women will be trained as DC solar technicians, creating green jobs and promoting the role of women in the energy sector.

Project Developer
Taatisolar Namibia

Taatisolar is a women-led Dutch-Namibian joint venture that is importing and distributing solar home systems and DC solar-powered appliances to off-grid markets in Namibia.

Technology
Solar PV

Location
Namibia

Total Project Budget
EUR 373,186
EEP Africa Financing
EUR 210,000
Project Partners
n/a
Type
Scale-up project
Stand-alone
Project Code
NAM16920

Outcome and Impact

The project aims to sell 250 solar refrigeration units in rural and peri-urban communities. At full scale, the project expects to save 46 MWh per year and reduce over 900 tCO₂ emissions.

The project will improve health outcomes by piloting solar refrigeration for vaccines and medicines at off-grid clinics. Local women will be trained as DC solar technicians, creating green jobs and promoting the role of women in the energy sector.
RUKOVA: GREENHOUSE AQUACULTURE

This project will pilot an innovative approach to fish farming that uses clean energy for greenhouse aquaculture. Rukova will use Recirculating Aquaculture Systems (RAS), which reduce the use of water and land, to transition towards a more sustainable and efficient fish protein value chain. The 100 kWp solar PV greenhouses will catalyse aquaculture and energy production at the same site. Local women will be trained in solar maintenance and low-input horticulture, and produce from the project will be sold on the local market. The project also aims to provide refrigeration service to local fish sellers. EEP Africa financing will support the infrastructure investments needed to catalyse private investment.

Outcome and Impact

The project will support a circular economy by reducing land and water use, while improving food security and nutrition. It will increase revenue for local fish sellers and horticulturalists and provide income opportunities for women and youth. The solar mini-grid is expected to generate 0.1 MW of clean energy and prevent 10 tCO₂e emissions.
This project aims to demonstrate a unique and portable energy-storage solution that can turn any room into a classroom. Tespack will distribute its Solar Media Bag (SMB) to new markets in Zambia and Uganda. Each SMB includes 80 W solar panels, a projector, speakers and modular power banks. The SMB is specifically designed to be used by teachers and healthcare workers in rural off-grid areas. EEP Africa financing will enable Tespack to finalise product development, collect evidence and feedback from the field, and prepare for full-scale commercialisation.
ENERGY AND WATER FOR SUSTAINABLE AND CIRCULAR FOOD SYSTEMS

This project will demonstrate an innovative food waste-to-energy solution for powering water pumps and food processing in rural Uganda. The Waste Transformers’ small-scale, containerised anaerobic biodigester will convert agricultural and fish waste into clean energy at a local fishery. The biogas produced will power pumps to transport water from local sources to fish farming ponds and then pump the wastewater from the ponds to irrigation systems for smallholder farmers. The digester will also generate heat for fish processing and produce organic fertiliser to increase crop yield and long-term soil health. EEP Africa financing will enable testing and validation of the system and open the path for a commercial roll-out.

Project Developer
The Waste Transformers

The Waste Transformers is a Dutch company that develops containerised anaerobic digesters to enable businesses and communities to transform food waste into green energy and organic fertiliser on-site.

Technology
Waste-to-Energy, Biogas

Outcome and Impact
The project provides a circular solution to turn farm waste into productive energy that supports irrigation and food preservation. The system will generate 0.3 MW of energy and enhance access to water for over 500 crop and fish-pond farmers. By diverting food waste from landfills, the biodigester will reduce 635 tCO₂e emissions per year. The project has high potential for scale up in Uganda and other countries.
SOLAR POWERED COMMUNAL REFRIGERATION

This project will pilot solar-powered cold storage in the livestock value chain. Using a B2B model, Tree_Sea.mals will target Nairobi meat markets that source from low-income pastoralist groups in Northern Kenya. The pilot will be the Burma market, which trades over 2,500 carcasses per week and is the main retail outlet for butcheries handling 93% of household meat purchases. The project will set up PAYG units with 15 kWp and the capacity to cool 864 tonnes of meat per year. These will provide the anchor load for a solar PV mini-grid and reduce post-slaughter food loss by about 288 tonnes per year. EEP Africa financing will cover capex costs, enabling this start-up to develop and prove its innovative business model.

Project Developer
Tree_Sea.mals

Tree_Sea.mals is a local, women-led company that utilises renewable energy solutions to link communal markets and agribusiness processors to cold chain.

Technology
Solar PV

Total Project Budget
EUR 290,000

EEP Africa Financing
EUR 200,000

Project Partners
Wings of Empowering Pastoralists, Accent Cooling, Knights Energy, VE Energy, Kenya Meat Commission, TLO Law, Nairobi City Council

Type
Pilot project

Stand-alone

Project Code
KEN16152

Location
Kenya

Outcome and Impact

Three cold storage units will serve up to 156 meat traders at the market. The switch from current cold storage technologies to a shared solar-powered cooling solution is expected to reduce energy costs by EUR 23,750 per year. The project also aims to reduce emissions by over 77 tonnes of CO2e per year and create 36 new jobs.
This project aims to pilot a franchise model for irrigation-as-a-service to support small rural farmers living uphill or far from surface water sources. The project will create 12 franchises to manage a solar-powered irrigation solution tailored to the geography of Rwanda, where traditional irrigation is difficult. The pumps will bring water from the valley to a hilltop storage area, where it will be distributed by gravity to small groups of farmers. The estimated irrigation area is 60 ha daily and the irrigation kits use prepaid meters to provide flexible sales based on the volume of water used by each farmer. EEP Africa financing will cover the upfront capex costs needed to test this business model at scale.

Outcome and Impact
The project will improve productivity by increasing yields for at least 150 farmers and provide regular income for 12 franchise owners, of which a majority will be women entrepreneurs. The technology will improve food security and climate resilience, while reducing an estimated 416 tCO₂e emissions by replacing diesel pumps. The irrigation kits can also include filters for clean drinking water.
MUSTAPHA ENERGY: CONVERTING RESIDUAL WASTE IN CAPE TOWN

This project will assess the feasibility of a modular waste-to-energy plant in the Athlone industrial area of Cape Town. The proposed plant would generate 2.7 MW of electricity and thermal energy from municipal solid waste, using an innovative technology developed by a Finnish company. The facility will be designed to apply an integrated approach to electricity and thermal energy for municipalities and industrial off-takers. The project will also consider gasification as a comparative or supplemental technology. Witech also plans to establish a local non-profit to educate schoolchildren and the community about waste management. EEP Africa financing will support the research and studies needed to develop a bankable project.

Outcome and Impact

This would be the first plant in South Africa to use moving grate incineration technology to turn municipal solid waste into energy. When operational, the plant will divert more than 60,000 tonnes of waste from Cape Town landfills, significantly reducing GHG emissions. The project has the potential to transform waste management in South Africa and provide clean energy to industrial clients and the grid, reducing the need for load shedding.
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SokoFresh will integrate solar-powered cold storage and processing solutions in the avocado value chain in Kenya.

Portfolio by Technology

**Biogas**
Green Impact Technologies [16], Mandulis Energy [22], The Waste Transformers [30], Wiotech Africa [46]

**Biomass (solid)**
HannyG Investment [18], KTF Concept [20], Sanivation [38]

**Energy Efficiency**
ASOBO [6], Plentify [36], Tespack [48]

**Solar PV**
Clamore Solar [8], EkoRent Africa [10], ENdep [12], Gommyr Power, Millennium Engineers [24], Mobility for Africa [26], OneLamp [28], OnePower Lesotho [30], OVO Solar Technologies [32], Phaesun [34], SokoFresh [40], Solarworx [42], Taatisolar [44], Techno Plus [48], Tree_Sea.mals [52], Water Access Rwanda [54]
Fund Manager

The Nordic Development Fund (NDF) is both Fund Manager and funding partner for EEP Africa. NDF is the joint Nordic climate and development finance institution established by the governments of Denmark, Finland, Iceland, Norway and Sweden.

The purpose of NDF is to advance Nordic leadership in addressing climate change and development challenges through financing, knowledge and partnerships. Together with strategic partners, NDF develops, launches and scales high-impact projects to support developing countries and the most vulnerable people affected by climate change. Headquartered in Helsinki, NDF provides flexible, catalytic financing for climate change mitigation and adaptation in lower income and countries in fragile situations with focus on Sub-Saharan Africa.

Funding Partners

The Austrian Development Agency (ADA) is the operational unit of Austrian Development Cooperation and has supported EEP Africa since 2010. ADA’s goals prioritise reducing poverty, ensuring peace and contributing towards conservation of the environment with particular emphasis on gender equality and climate protection. ADA’s focus themes, such as the water-energy-food security nexus and private sector development, are strongly supported by EEP Africa.

The Ministry for Foreign Affairs of Finland administers Finland’s ODA budget and hosted EEP Africa between 2010-2017. Finland’s development policy supports the eradication of poverty and inequality and the promotion of sustainable development with particular focus on strengthening the rights of the most vulnerable, promoting gender equality and increasing the climate resilience of local communities. Enhancing access to sustainable energy is crucial in reaching these goals.
Taatisolar will engage women’s cooperatives in Namibia to promote solar refrigeration and other off-grid appliances.
IT IS POSSIBLE

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