

KawiSafi Ventures

Community Report 2021



Disclaimer

This quarterly report contains forward-looking statements. Statements that are not historical facts, including statements about KawiSafi's beliefs or expectations, are forward-looking statements. These statements are based on plans, estimates and projections developed by the portfolio companies and our team at the time KawiSafi made the original statement, and you should not place undue reliance on them. KawiSafi does not undertake to update any of these statements in light of new information or future events.

2

Community Report 2021

Forward-looking statements involve inherent risks and uncertainties and KawiSafi cautions you that a number of important factors could cause actual results to differ materially from those contained in any such forward-looking statement. These factors include, among others: ability of portfolio companies to identify, assess and implement efficiency and productivity measures, to control or reduce costs; ability of portfolio companies to develop and launch new products and distribute new and existing products or services; competition, including pricing and promotional spending levels by competitors to portfolio companies; ability of portfolio companies to generate and maintain effective partnerships for distribution or sales of products and services; ability of portfolio companies to identify and cultivate a strong management, marketing, operations, finance and sales teams; logistics and other transportation-related costs for portfolio company products and services; increase in costs of raw materials and manufacturing efficiencies for portfolio company products; sufficiency and effectiveness of portfolio company marketing programs; changes in, or the failure or inability to comply with governmental regulations or to procure and maintain governmental contracts on satisfactory terms; adverse weather conditions, natural disasters, social unrest and other conditions that disrupt portfolio company operations; general economic and business conditions; and other factors.

Abbreviations

In alphabetical order:

AUM: Assets Under Management

BAU: Business-as-usual

C&I: Commercial and Industrial Solar - solar solutions for large buildings, companies, manufacturing facilities etc. Solar energy produced by the system is typically produced at or near the site where it is used

DERMS: Distributed Energy Resource Management Systems

FDI: Foreign Direct Investment

GOGLA: Global Off Grid Lighting Association - global association for the off-grid solar energy industry

KSV: KawiSafi Ventures (also referred to as KawiSafi)

MOIC: Multiple on invested Capital; which, at the time of this report, is unrealized

LPG: Liquefied petroleum gas

PayGo: Pay As You Go - finance innovation where consumers pay for and / or lease assets on a utilization basis

PMI: Purchasing Managers' Index (PMI) is an index of the prevailing direction of economic trends in the manufacturing and service sectors. It consists of a diffusion index that summarizes whether market conditions, as viewed by purchasing managers, are expanding, staying the same, or contracting. The purpose of the PMI is to provide information about current and future business conditions to company decision makers, analysts, and investors

SaaS: Software-as-a Service

SHS: Solar Home System - typically defined as systems powered by panels between 6Wp and 100+Wp. Systems typically include lights, energy efficient appliances, and additional features. For the purposes of this report, SHS is inclusive of smaller pico lamps between 0.3Wp and 2.8Wp

TAF: Technical Assistance Facility

USD: United States Dollar - (note: all currency reported in this report is in USD unless otherwise stated)

VAT: Value Added Tax

Wp: Watt Peak - maximum output power achieved by a solar module under full solar radiation (under standard test conditions)

contents



4

Community Report 2021

- 5** Letter to Shareholders
- 8** 2021 Market Outlook
- 14** KawiSafi Fund I: 2021 Update
- 20** Impact Case Study: Sistema.bio
- 23** Case for Impact monitoring: A conversation with 60 Decibels
- 27** Technical Assistance Facility
- 33** Gender Lens Investing at KawiSafi
- 36** Understanding the carbon opportunity with BioLite
- 39** Appendix



Letter to Shareholders

2021 will be remembered as the year of the successful, extraordinary rollout of the COVID-19 vaccine. In less than a year, over 4.5 billion people across the planet had been vaccinated. With an mRNA vaccine that hadn't existed even a year earlier. It's an outstanding testimony to the ingenuity, creativity, resilience and scale at which humankind can work when we pull together and rise to the challenge. Yet COVID-19 remained tenacious throughout the year, disrupting supply chains and travel, draining government budgets, and straining organisations, communities and families everywhere. Price inflation and currency devaluation have impacted African economies – in Kenya the shilling devalued against the US dollar and continued a more precipitous decline into 2022.

Within the off-grid market, the prolonged restrictions and economic constraints of COVID-19 worked its way to consumers and resulted in depressed sales. The global pandemic continued to disrupt supply chains causing significant upward cost pressure and stock-outs. LCD's for TVs, chipsets and battery storage presented particular chokepoints. For the first time, costs of bundled systems bucked the sustained trend of decline seen over the last decade. GOGLA, the off-grid association, reported a 4% decline in global sales.

Fortunately, our portfolio companies were able to raise follow on capital. Innovation from two of our portfolio companies in developing revenue streams through carbon markets has been transformative in lowering costs to consumers and accelerating product sales. The potential for carbon markets to support enterprise economics in lower income countries is largely untapped, but we feel it has significant potential.

Against this backdrop, KawiSafi welcomed a new staff member: Collins Mwangi joins as our Investment Associate and builds out the full team with 7 professionals. We also made two new investments. Both reflect our strategy for concluding our portfolio construction and complementing our existing firms. The Fund already holds a strong cohort of residential home system energy companies. We identified Sistema.bio for its ability to

provide scalable, commoditized high-intensity energy solutions for heating and cooking applications; and its extraordinary management team. We are delighted to catalyze co-investment in Sistema.bio from AXA IM, bringing substantial commercial capital into the market.

We invested in Shyft for its asset-light data-driven focus on the smaller C&I distributed energy market. The Company promotes adoption of renewable power by offering AI and IoT solutions for distributed energy management. The firm is led and founded by Ugwem Enyeo a female Nigerian-American engineer recognized in Forbes 30 Under 30.

We are delighted to welcome both these companies to the KawiSafi portfolio – which now numbers 10 of the most outstanding, impactful and respected firms that are rising to the energy access and climate challenge in Africa.

The end of the year marked COP 26, where the world convened to address climate change over an overcast week in Glasgow, Scotland. Climate change represents the biggest challenge that humanity has ever faced. It calls for a response from humanity – a 55% reduction in CO2 emissions that gives us a 50% chance of reducing global warming below 1.5C – that has never been contemplated in human history. [Yet Africa, having contributed less than 3% to global emissions, stands to lose 30% of its hard earned GDP growth by 2050 to the vagaries of rising temperatures.](#) And over 100M people on the continent will be pushed deeper into poverty. Pope Francis calls climate change 'a brutal act of injustice against the poor and future generations' and asks the world to embrace a Just Transition: a transition to a low carbon world that is fair, inclusive, and that creates opportunity for all. The companies that we support, doing the hard work of creating clean, affordable energy access for everyone, are showing us the way and leading the path to a resilient, low-carbon future.

Despite extraordinary efforts by so many, we fell short at Glasgow. Our response to COVID-19 gave us a glimpse of what we are capable of; but the agreements at Glasgow felt more philosophical than practical. Systemic issues to address north-south disparities were left off the table. There is an urgent need for agreement around four key policies that we believe will make all the difference:

- Regulatory commitment from government – to use public spending to buy low-carbon energy, products and services; and to signal the end of coal and heavy fuels.
- Redressing historical subsidies for fossil fuels – \$440bn is spent on these subsidies every year – to create an even playing field for renewable energy.
- Green finance- to incentivise low carbon technologies and lower the cost of capital to

firms that are delivering on the green economy. Today, many companies across Africa spend 12% or more for balance-sheet debt. It is no wonder that profitability is elusive for so many firms under this type of burden.

- Pricing carbon through markets and taxes – the Task Force on Scaling Voluntary Carbon Markets led by Bill Winters and Mark Carney is leading the way here. We see the potential for this kind of initiative to drive \$100bn a year into emerging markets – an amount that dwarfs existing public finance commitments.

People in Africa, in underserved markets everywhere, deserve better. We appreciate the opportunity to present this community report to you and ask you to join us as we drive impact toward a world where clean energy is accessible for all.

Sincerely,
Amar Inamdar

KawiSafi Fund I: Mandate

Mission:

KawiSafi aims to achieve social & environmental impact and long-term capital appreciation by enabling access to clean energy products and services to low-income and off-grid populations in developing economies. Our investments are intended to facilitate the expansion of companies in East Africa with a focus on Kenya and Rwanda.

Expected portfolio composition:

- Sector:** market driven clean energy access. Sub-sectors include and are not limited to; residential power, commercial & industrial power, alternative financing, software, mini grids, clean cooking technology, and mobility.
- Stage:** early growth stage companies (Series A-B or <\$1M sales), with opportunistic allocation for venture stage companies (Seed).

Fund and Portfolio Targets

Size of each investment: \$0.75M – \$6.75M	Number of investments: 10 – 12
Impact metric targets: Lives impacted – 10,119,000 50% of lives impacted below World Bank poverty line Carbon emissions averted: 1,011,900t ²	Holding period per investment: 5 – 7 years

2021 milestones:

- 2 new investments were closed: SHYFT Power Solutions and Sistema.bio.
- Approved ~\$1M in projects to promote consumer protection and gender initiatives under the Technical Assistance Facility.
- Team: Collins Mwangi joined in January 2021 as an Associate.



Market Outlook

Photo: Angaza

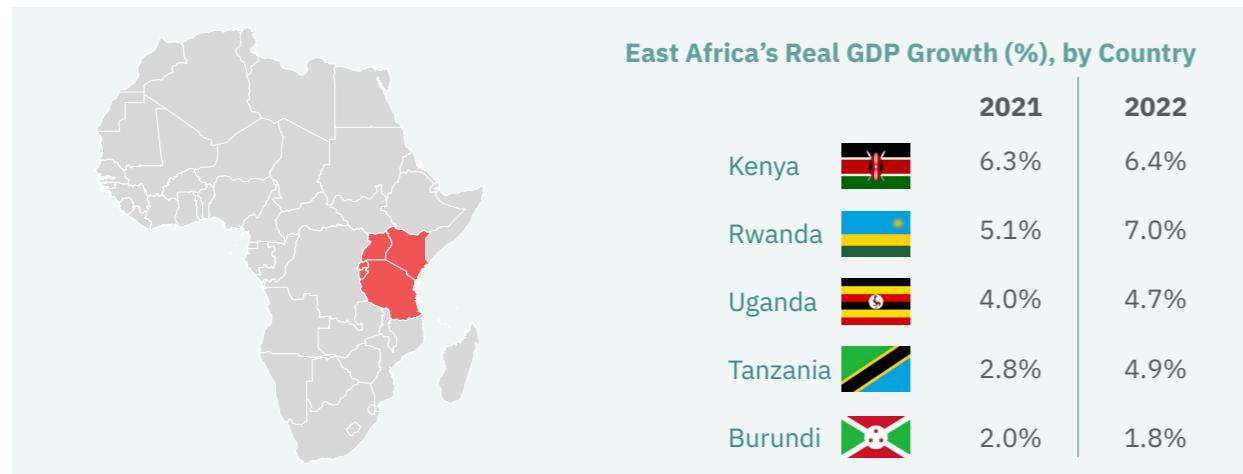
Expectations in 2022 portray some cautious optimism, as economies continue to show resilience post-pandemic

Outlook on East Africa's Economy¹:

The impact of Covid-19 throughout 2021 saw the region dealing with containment measures and global supply and demand disruptions, which hit businesses and livelihoods hard.

According to AfDB, East Africa is estimated to have grown at an average of 4.1% in 2021, up from 0.4% posted in 2020. This was driven by sustained spending on infrastructure, improved performance of the agricultural sector, a shift towards a more service-oriented economy and deepening regional economic integration.

In 2022, the region is projected to continue on this recovery path, growing at 4.9%. At the base level, East Africa is experiencing an economic transformation from mainly agriculture-based to more service-oriented activities. But the transition to higher value added activities that marks structural transformation has been slow, and some countries in the region are experiencing deindustrialization.



2021 Macroeconomic performance highlights¹

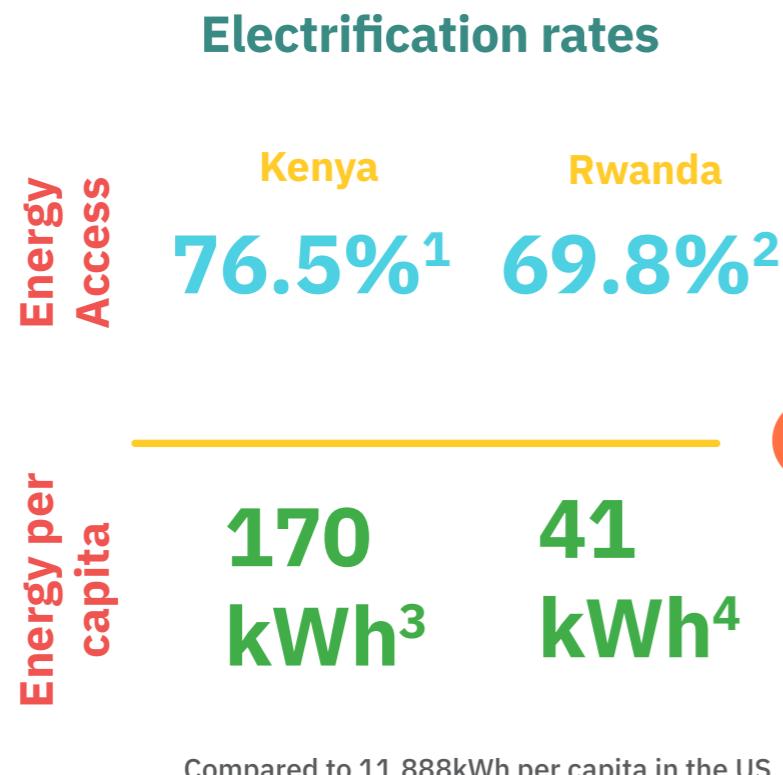
- The COVID-19 pandemic slowed the progress on reducing poverty in the region, dealing a heavier blow to poor people in the region. The share of East Africans living in extreme poverty rose to 35% in 2021 equivalent to 134.3M people¹.
- Several countries implemented measures to mitigate the impacts of the pandemic, including emergency responses to strengthen the health sector, policy stimulus packages to support economic activity, and increased social spending to protect vulnerable livelihoods. These policies helped most of the regions avoid recessions and reduce the number of vulnerable people falling into poverty.
- That said, there are issues that could dampen that outlook, such as the slow rollout of COVID-19 vaccines and spikes in infection. Regional banking regulators have raised concerns in Kenya, Tanzania over the rise of bad loans, which is now threatening the health of financial sectors across the region.
- Inflationary pressure remains elevated in East Africa compared to other regions of Africa but is expected to ease in the medium term. Inflation in East Africa was estimated at 36.5% in 2021, compared to 20.5% projected in January 2021¹, citing rise in oil prices as a main driver, leading to an energy inflation.
- 2021 saw the Kenyan shilling and Rwandan Franc depreciating at -2.93% and 3.48% respectively against the US dollar, with the Ugandan and Tanzanian Shilling holding steady against the dollar at 2.45% and 0.76% respectively. The Ugandan shilling was projected to remain strong to the end of 2021, buoyed by dollar inflows from coffee exports and foreign investors chasing yields²

1. AfDB, East Africa Economic Outlook 2021, [link](#) 2. The East African, Uganda, Tanzania currencies ranked top as Kenya shilling, Rwanda franc lose value, [link](#)

Kenya and Rwanda make positive strides towards universal energy access

10

Community Report 2021



Government Vision

Kenya: Universal energy access by 2022, increasing to 80% the share of renewable energy in the country mix; and doubling the rate of improvement in energy efficiency by 2030.

Rwanda: Universal household energy access by 2024. Among these households, 69.1 per cent will be connected to the grid while 30.9 per cent will be using off-grid solutions.

Grid v Off-grid costs

(assess competitiveness of off-grid costs against on-grid)

On-grid cost/kWh:

- In Kenya and Rwanda the costs range between \$0.18 – 0.25/kWh (average cost reflective tariff in Africa is \$0.27kWh)^{5,6}
- Grid extension costs estimated at ~\$800-\$2,000 per connection in Africa⁷

Off-grid cost/kWh:

- SHS: \$2-4, inclusive of upfront fee, \$20-50⁸
- Mini-grid: \$0.55kWh, \$1-2K per connection⁷
- C&I: ~\$0.17/kWh in Kenya, and ~\$0.23/kWh in Rwanda⁹

1. EPRA, Energy & Petroleum Statistics Report, 2021 2. REG, Electricity Access in Rwanda, [link](#); 3. Enerdata, Kenya Energy Information, [link](#); 4. World Info, Energy consumption in Rwanda, [link](#); 5. StimaTracker, Electricity cost in Kenya, [link](#); 6. REG, Electricity tariffs, [link](#); 7 kWh represents LCOE for national utilities and the 2019 baseline for an unsubsidized solar-hybrid mini-grid respectively, ESMAP, Mini Grids for half a billion people, [link](#); 8. KawiSafi Analysis; 9. BNEF, Solar for Businesses in SSA, [link](#).

Residential solar sector experiencing uneven recovery across region; policy and donor support to mini-grids, but slow progress

Industry Trends

Ecosystem Trends

Recent Transactions

Residential Solar

- The residential market is showing delayed effects of the pandemic, as households struggle with rising inflation and more uncertain income opportunities. Several residential solar companies are now more focused on mobile phone financing which is showing rapid growth and has been less impacted by the pandemic.
- The off-grid solar industry has shown strong resilience throughout the COVID-19 pandemic, however, the path to recovery is uneven and there are varying trends among regions and markets.
- Following consumers' reduced spending capacity and severe disruptions in global supply chains, the industry is not yet back on a solid growth trajectory. Data from January – June 2020 reveals that off-grid solar lighting sales decreased moderately by 4% compared to the second half of 2020, totaling 3.5 million products sold.

11

Community Report 2021

Mini-grids

- Developers continue to find East African markets a challenging environment to develop projects, given regulatory uncertainty and competitive dynamics with utilities.
- Several mini-grid developers are starting to focus more on C&I projects rather than community-based mini-grids, given the quicker project cycles and lower off-taker risk.

- VAT exemptions were reinstated in Kenya on specialized equipment for solar and wind energy development, representing a positive development for the industry in Kenya. This is expected to increase the uptake of solar products and should relieve some of the margin pressure companies are experiencing due to COVID-19 impacts.¹⁵
- CGAP, GOGLA and Lighting Global launch the *PayGo Performance Reporting and Measurement framework*, a step forward in helping the off-grid solar industry improve performance and move towards use of consistent, transparent metrics.¹
- The Government of Uganda has launched the last-mile connectivity component under the Uganda Rural Electricity Access Project. The program aims to increase the electrification rate to 60% and above, by facilitating the connection of 87,500 rural households to affordable electricity.³

- IKEA and Rockefeller announce a large commitment to catalyze the development of distributed renewable energy sources, particularly mini-grids.¹⁶
- Kenya government is reviewing proposed new regulations on mini-grids to expand electricity access. The new regulations will allow interconnection to the main grid, creating favorable conditions for investors.¹³
- Winch Energy's 128kWp Solar PV + battery storage mini-grid development to be completed in late Q3 powering 500 homes.¹⁴
- Tanzania is set to deploy 60 solar mini grids in rural areas following CrossBoundary Energy Access and PowerGen Renewable energy signing an agreement for the off-grid projects.⁸

- d.light announces \$15M round led by Inspired Evolution to fund expansion into new markets. d.light closes \$10M Series E round led by Proparco to enable expansion of the company's solar and PayGo financing business in Africa.⁴
- Energy Access Relief Fund (EARF) achieved a first close of \$68M with a mandate to provide relief capital to energy firms struggling with the economic fallout from COVID-19 and support energy access in sub-Saharan Africa and Asia.⁵ Acumen, CDC group, US International Development Finance Corporation (DFC), FMO, among others will anchor the fund. It will be managed by Social Investment Management and Advisors (SIMA).
- GLP raises \$75M to expand access to Off-grid power.⁶
- Zola Electric closes a \$90M funding round to scale technology and enter new markets.⁷
- Uganda's Solar Sister, a female empowered entrepreneurial program focusing on distribution of solar energy in developing countries, received \$5M from Palmetto.¹⁸

- InfraCo Africa and Rural Village Energy Solutions (RVE.SOL) signed a joint Shareholders Agreement committing a total of \$8 million to support the scale up of RVE.SOL's innovative multi-sector KUDURA Power East Africa (KPEA) business in Kenya.¹⁰
- Sustainable Energy Fund for Africa (SEFA) secures \$90M in additional funding to focus on green baseload, green mini-grid and energy efficiency investments.¹¹
- NEoT Off grid Africa and Winch Energy deploy new mini-grid projects in Uganda and Sierra Leone.⁹
- SIMA commits \$1M in partnership with Renewvia to expand energy access with 2 solar mini-grid projects in Kenya.¹⁷
- Renewvia Energy Secures \$10M from Claritas Capital to accelerate the company's growth in the US and Africa.¹²

Sources: 1. Lighting Global, New reporting standards could energize the Off-grid solar industry, [link](#); 3. ESI Africa, Uganda launches last-mile connectivity to increase electricity access, [link](#); 4 d.light, Press release, [link](#), [link](#); 5 Lighting Global,EARF reaches first close, [link](#); 6. SolarQuarter, Greenlight Planet Raises \$75 Million To Expand Access To Off-Grid Solar Power, [link](#); 7 TechCrunch, Zola Electric closes \$90M round, [link](#); 8. Construction Review Online, Tanzania to develop 60 solar min grids in rural areas. [Link](#); 9. NEoT, NEoT and Winch Energy to deploy new solar solutions in Uganda and Sierra Leone, [link](#); 10. AFSIA, Investing to scale up multi-sector off-grid solutions, [link](#); 11, AfdB, SEAF secures \$90M in new funding, [link](#); 12. TechMoran, Renewvia secures \$10M to accelerate growth, [link](#); 13 Bowmans, Expansion of electricity access in Kenya – Proposed new regulations on mini-grids, [link](#); 14 African Energy, Uganda: Winch Energy Bunjako Island mini-grids expected September, [link](#); 15. Business daily, VAT Exemptions on solar key to universal electrification by 2022, [link](#); 16. IKEA Foundation, IKEA Foundation and Rockefeller Foundation join forces to set up a historic \$1 billion initiative to catalyze investments in distributed renewable energy, [link](#); 17. ESI African \$1M commitment from SIMA Fund to electrify Kenyan Communities, [link](#)

The C&I sector saw greater competition with new entrants; e-mobility continues to attract interest and VC investment

Industry Trends

C&I Energy

- The East African market continues to be increasingly competitive with notable M&A's happening in the market and introduction of new products that offer financing packages as well as EPC services.
- Installers experienced rising component costs and shipping expenses. The effects resulted in working capital challenges for C&I developers.

Ecosystem Trends

- Privately owned distributed solar installations have been steadily growing amongst C&I users in Kenya driven primarily by cost savings and power reliability benefits to off takers.
- This is increasingly putting Kenya Power under financial pressure as more anchor clients favor distributed solar, intensifying the shift by firms to generate their own power from solar, e.g., East Africa Breweries Limited announced a \$200M plan to go 100% renewable by 2030.^{13,14} By implication, as more industrial clients transition to renewables, this creates a large market opportunity for the C&I sector in Kenya.

Recent Transactions

- GCF Board approves \$170.9M financing to AfDB's Leveraging Energy Access Finance Framework (LEAF) program to unlock commercial and local-currency financing for decentralized renewable Energy in Ghana, Guinea, Ethiopia, Kenya, Nigeria and Tunisia.¹⁵
- West African StarSight Energy acquired 50% of Premier Solar Group based in East Africa²⁰
- Solarise Africa secures \$5.9M in debt financing from Trine to expand across Africa.¹⁷
- GridWorks and New GX Capital inject \$40M into South-African solar power company Sustainable Power Solution (SPS).¹⁹
- AlphaMundi and TripleJump extend \$1M Mezzanine debt to Redavia.¹⁶

Electric Mobility

- There are a growing number of start ups across East Africa that are innovating in the electric mobility space, primarily using 2- and 3-wheeler as the entry point
- Given the lack of incumbents, many of these firms are integrating vertically across manufacturing and assembly, distribution, financing and charging.
- In Kenya, on-demand delivery platforms such as Uber, have launched pilots around several different brands of electric motorbikes, a first in Africa for riders on UberBoda, Uber Connect and Uber Eats platforms.
- There is a lot of interest in the space among investors, policymakers, and development actors. We have identified more than 15 companies in our pipeline.

- Partnership between City of Kigali and green e-mobility public bicycle sharing system GURARIDE saw launch of a bicycle sharing scheme to reduce Kigali's CO2 emissions.¹
- Sendy Ltd, is piloting its first electric vehicle fleets to address clean transportation in Nairobi, partnering with ARC Ride to deploy 3-wheeler EVs for the last-mile delivery solutions and reduce carbon footprint. Similarly, Sendy have partnered with META Electric to introduce electric-powered vans.^{2,3}
- Bolt launches Electric Tuk Tuks, bikes and bicycles in Kenya with plans to go green globally.⁴
- Kenyan-based Astral Aviation launches drone delivery services to enhance vaccine distribution in Africa.⁵

- Opibus closes a \$7.5M Pre-Series A in a round led by silicon-valley based fund At One Ventures⁹
- Basigo closes \$4.3M in seed funding to accelerate mass transit EV adoption in Kenya in a round led by Novastar Ventures¹⁰
- Ampersand raises \$3.5M Series A in a round led by US-based Ecosystem Integrity Fund¹¹
- ARC Ride announced a \$6.2M investment to build out its managed service fleet of electric 2-and 3-wheelers¹²
- Zipline raises \$250M at \$2.75B valuation to build out its instant logistics service in Africa and United States.^{5,6}
- Notify Logistics closes a \$450K seed round to help reduce the cost of doing business for SMEs.⁷
- Ridelink, a Ugandan peer-to-peer car rental company has secured \$150K from Ortus Africa Capital.⁸

VAT reintroduction on LPG in Kenya has impacted households; energy sector is increasingly a target for software companies

13

Community Report 2021

Clean Cooking

- Household clean cooking solutions are starting to demonstrate commercial scale in East Africa – CircleGas and Koko networks are now reaching hundreds of thousands of urban customers in Nairobi and 2nd tier cities in Kenya.
- Some firms are now starting to leverage PayGo technology to reach lower-income markets with clean cooking solutions
- Households continue to feel the pinch of the reintroduction of VAT on LPG fuel sales (approximately 50% of households in Nairobi own a LPG cooker). The elimination of VAT on biofuels has helped one company KOKO Networks achieve rapid growth now serving 200,000 households in and around Nairobi.

Fintech & Software

- We are seeing increasing activity and sophistication in the energy software and analytics space, of which our portfolio company Angaza is one of the leaders. Advanced risk analytics for last-mile operators are developing, opening a unique opportunity to attract financing. Such innovations look to help businesses access financing to meet market demand and to scale.

Industry Trends

Ecosystem Trends

Recent Transactions

- Following public concerns, Kenya announced reinstatement of zero-rated VAT on biofuels, biogas, and biomass briquettes, and at the same time held 16% VAT on LPG
- Eni and the Ministry of Petroleum and Mining of Kenya sign an MoU to develop new industrial models in the biofuels value chains, promoting Kenya's decarbonization process.¹
- Households in 8 counties (Kenya) are set to benefit from the second phase of the Kenya Off-grid Solar Access projects (Kosap), a \$47M program that aims to provide solar and clean cooking solutions in off-grid rural areas.²

- Sistema.bio closed their \$17.5M Series B round led by KawiSafi Ventures and AXA Impacts.⁸

- Solaris Offgrid's PaygOps and Nithio FI have partnered, providing last-mile distributors the ability to combine their data with Nithio's data and analytics to assess portfolio health analysis and project repayment rates. Nithio FI will also provide financing to PaygOps customers in order to help them scale sustainably.

- Shyft Power Solutions closes their ~\$4M seed round, participated by KawiSafi ventures.⁹
- Odyssey Energy Solutions Inc acquires Ferntech GmbH in a move that sees Odyssey advance its mission to enable streamlined development, financing and operation of distributed infrastructure projects at scale.³
- Nithio FI, blended finance, permanent capital vehicle that is purpose-built to mobilize capital at scale in the off-grid sector, closed a \$23M round with US DFC, FSD Africa, EDFI-ElectriFi participating.⁴
- Uganda based Fin-e secures \$300,000 pre-seed financing for fintech solution to bridge funding gap of African energy SMEs,⁵
- Guidewheel closed an \$8M Series A led by Greycroft, as it pioneers a new category of cloud-powered FactoryOps empowering all the world's factories to digitize their operations and reach sustainable peak performance,⁶
- gnuGrid, a decentralized energy resource efficiency management platform, raised \$612,500 in seed funding as it pivots its offering to move into the fintech space⁷

Sources: 1. ESI Africa, Eni to develop sustainable biofuel value chain in Kenya, [link](#); 2. Business Daily, Households to tap KES 4.7B for solar, clean cooking kits found, [link](#); 3. Odyssey, Investment and Asset management platform Odyssey acquired Ferntech, [link](#); 4. ESI Africa, US DFC invests in African clean energy financing platform, [link](#); 5. AFISIA, Fin-e secured pre-seed funding, [link](#); 6. PR Newswire, Guidewheel closes \$8M round led by Greycroft, [link](#); 7. TechMoran, Uganda's gnuGrid secures \$612k seed round for expansion, [link](#); 8. Sistema Bio, Press Release, [link](#); 9. Shyft Power Solutions, Press release, [link](#)

KawiSafi Fund: 2021 Update



Photo: Shyft Power Solutions

Pipeline summary



Led Series D

Leading residential solar company in Africa and Asia



Led Series B

Pan-African provider of energy-efficient, off-grid cold storage



Series C

Pan-African distributed energy services company



Led Series A

Pan-African commercial & industrial solar solutions



Seed

Pan-African remote monitoring & control SaaS for energy assets



Led Series B

Software-as-a-Service technology solutions focused on energy sector



Led Series C

Manufacturer of off-grid energy products for Africa and N. America



Led Series A

Fintech focused on SME credit and data analytics for energy and FMCG



Led Series A

Manufacturer of innovative solar panels for energy and mobility



Led Series B

Innovative biogas technology that enhances climate resilience

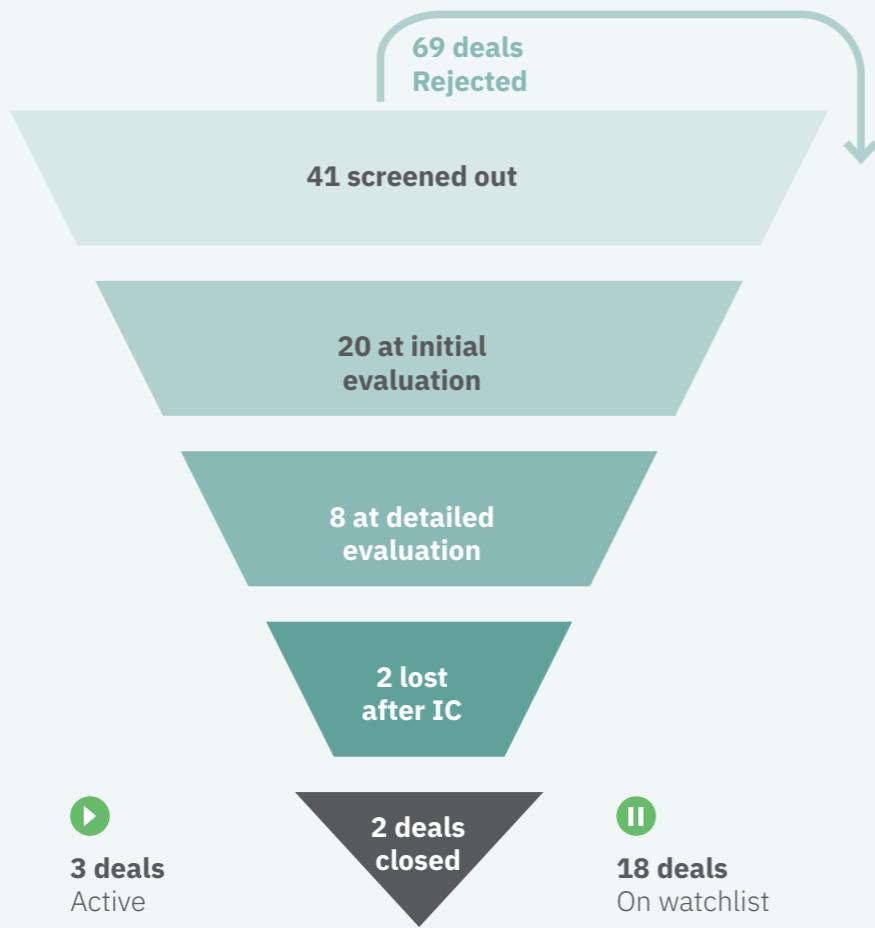
Pipeline summary

Pipeline screening (2021)

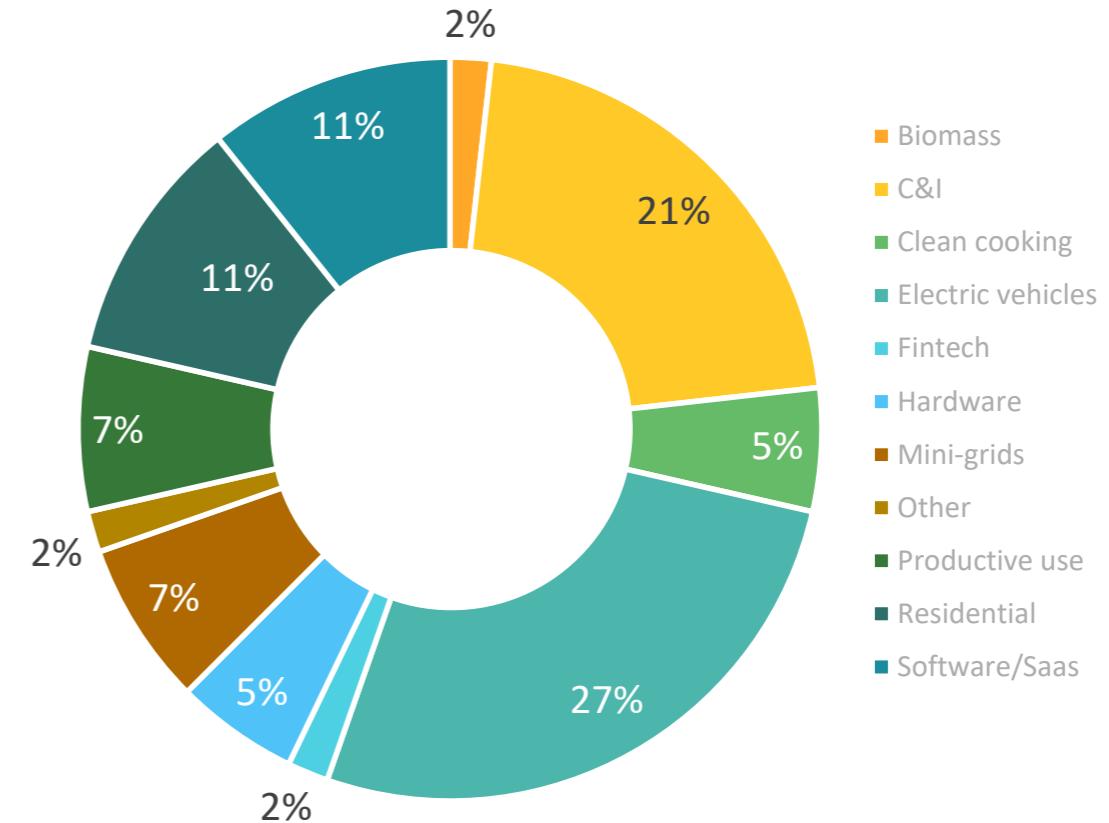
73
Deals Screened

c.300M USD
Deal Value

2
Deals Closed



Sector breakdown of deals screened, 2021 (no. deals)



Fund Impact

KawiSafi companies have cumulatively impacted 95M lives globally, and averted 24M tons of CO2 since fund inception

		Global	Kenya	Rwanda	Other Markets
Cumulative impact over fund lifetime	<i>Cumulative lives reached to date (direct & Indirect)</i>	94,901,285	33,450,167	2,070,229	59,380,890
	<i>Cumulative CO2 emissions avoided / reduced</i>	24,012,845	16,270,756	2,017,745	5,724,344
2021 impact	<i>Current period lives reached to date (direct & Indirect)</i>	30,337,126	12,766,151	891,855	16,680,408
	<i>Current period CO2 emissions avoided / reduced</i>	8,963,941	6,419,992	667,838	1,876,110

A spotlight into KSV's impact performance in 2021

	Kenya	Rwanda	Notes
Poverty reach (%)	44%	74%	% of people living below \$3.2 daily from Lean Data projects
Quality of life improvements	85%	84%	Proportion of customers who feel their quality of life has improved significantly as a result of access to the solar sector
NPS	80	31	Customer satisfaction using promoters minus detractors
Livelihoods supported	7%	6%	% of customers who sue their products for income generating activitiesW
Spending on Energy	\$57.06	(\$39.52)	Amount of US\$ change in spending on energy (increased spending or savings), over first year post-purchase, Per household
Value for Money (VFM)	72%	68%	Proportion of customers rating the company/ services as very good

Impact case Study: *Sistema.bio*



Impact Case Study: Sistema Bio

In late 2021, KawiSafi closed an investment in Sistema.bio, the world's leading provider of distributed biogas solutions with over 200,000 users in 30 countries. The company's patented technology allows farmers around the world to efficiently convert their waste into renewable energy and bio-fertilizer to address the challenges of poverty, food security, and climate change. Below is a case study of one of Sistema's smallholder customers to give you a flavor of why we invested.



The Customer

Wambui and her eleven siblings grew up on a farm in a small village called Mang'u, 65 km from Nairobi, Kenya. With no other source of income, Wambui's parents used the small proceeds they got from their mixed farming to feed them and see all twelve of them through school. Fifteen years ago, Wambui and her sister Salome were deeply moved by the number of orphaned children in their village; and they instinctively open up their family home to them without question. Their home filled up fast, and a few months on; they had to look for a solution. They rallied up well-wishers who helped them build a children's home meters from their family home. The home came with a myriad of needs; first among them being food for the children. Like their parents before them, the two sisters seriously took up farming: planting their own food and keeping a variety of farm animals. They now had food for everyone; but what were they going to cook it with? With the steady increase of LPG prices in the country, Wambui was spending close to KES 100,000 per month. A 13kg LP gas cylinder could barely last them 3 days. They then resorted to cooking with charcoal and firewood, which brought about respiratory infections especially for the younger and sickly kids. This was clearly not sustainable. They needed an affordable, long-lasting, clean, and sustainable solution.

The Sistema Solution

Ever the problem solver, Wambui went online and looked up possible solutions; with her key search words being affordable, sustainable, clean cooking options. It is here that she discovered the biogas world and Sistema.bio, and she knew right away that that was the solution she had been looking for all along.

She invited Peter, one of Sistema's sales managers, together with someone from the technical team and they patiently took her and her sister through the entire process. They assessed her farm, the number of animals she had, her cooking fuel needs; and advised her to take a Sistema20. She was afraid that this was going to be too costly given the expertise and level of technology displayed. The sales manager helped her calculate her monthly spendings on gas, charcoal, and firewood, and it was a bit shocking to see it in full display even though she already had an idea of how high they were. Peter then worked out an affordable payment plan for her, and she was relieved to see that her monthly payments would even be lower than her monthly spendings on cooking fuel.

She took her time and monitored the farms around her that had Sistema.bio digesters, and she finally felt confident enough to go for it. She called Peter, handed in her first deposit, and within a brief time, the Sistema technical team had installed her biodigester. In the first few months, the customer care team was on her speed dial, and they answered all her questions, and sent someone on the ground if the need arose. By the third month, she and her team in the farm were comfortable operating the biodigester; feeding it properly and collecting the fertilizer produced as a by-product. Her cooking fuel issue had been completely solved.

Impact Case Study: Sistema Bio

22

Community Report 2021

“I would describe our package as a partnership with farmers. Biogas is a complicated business, and we have identified three pillars that make us successful: 1) robust and reliable technology; 2) service and training, guaranteeing close and on-the-ground interactions with our clients so farmers can learn how to properly use the technology; 3) direct sales and financing, providing farmers with payment plans and ensuring they are not only convinced by the technology but also want us to install it. While the pillars evolved over time, what helped us was getting the technology right early on. Our system is a lease-to-own product, which we take back if our clients don't want it. Therefore, it's a pure market test with every single farmer, confirming that they are satisfied with the product and are happy to keep paying for it under resource-limited conditions.” ”

**Alexander Eaton,
CEO and CoFounder,
Sistema.bio**

The Impact

Wambui went from purchasing 52kgs of LPG every month at a total cost of KES 68,000 (approx. \$680), to enjoying between 10 and 13 hours of cooking time with her biogas; an equivalent of 86 kgs of LP gas per month. This was more than enough to cater for all the cooking needs of her family and workers in the farm. This saves her at least KES 100,000 every month, which goes into catering to other needs for her family and the children in the home.

In addition, she no longer needs to buy chemical fertilizers, as she collects between 400 and 540 liters of biofertilizer in a day (40 to 54 buckets). She says that she has seen tremendous improvement in her harvests from using the bio-slurry, and she is now able to feed all the children and workers, as well as supply fruits and vegetables in her local market. Her napier grass is also doing well now, and this has seen her slowly become a large-scale livestock farmer, with herds of cattle, goats, pigs and chicken which she supplies to clients as far as Nairobi.

While paying for the biodigester system on finance over 24 months, Wambui says that she got a positive cash flow of KES 804,000; translating to a payback period of 12 months.

The number of children in the home has increased quite rapidly in the last few years, and the biogas produced in her farm can no longer sustain them. Wambui and her sister have once again approached a Sistema technician and from

their needs assessment, they plan to install a Sistema 30 before the end of the year. This will ensure that they get 32 hours of cooking time a day, an equivalent of 210 kgs of LPG per month. They will also collect at least 1330 liters of biofertilizer a day. Wambui says that this will ensure that all the money they get for the home goes towards meeting the children's needs and giving them a good education; instead of buying fuel and chemical fertilizers. The two sisters also plan to go largescale with their chicken farming; and the new digester will ensure that they are able to power chicken brooder lamps without any additional costs.

Wambui and Salome say that they would recommend Sistema.bio digesters to all Kenyans; especially ambitious women who are in the agriculture sector.



Case for Impact monitoring:

A conversation with 60 Decibels

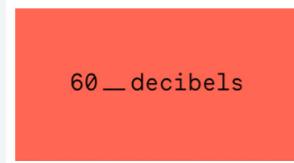
Case for Impact monitoring: A conversation with 60 Decibels

60 Decibels is a global, tech-enabled impact measurement company that brings speed and repeatability to social impact measurement and customer insights. They provide genuine benchmarks of impact performance, enabling organizations to understand impact relative to peers and set performance targets. With a network of 1,000+ researchers in 70+ countries, they have worked with more than 800 of the world's leading impact investors, companies, foundations, corporations, NGOs, and public sector organizations. 60 Decibels makes it easy to listen to the people who matter most. 60 Decibels' Lean Data approach was developed at Acumen and spun out as a new company in 2019.

KawiSafi Ventures has worked with 60 Decibels (and previously, the Lean Data team at Acumen) as its impact monitoring and measurement partner since the inception of the Fund.

24

Community Report 2021



1. With an estimated \$715 billion in AUM, the impact investing industry covers a diverse range of strategies and organizations, with varied approaches to impact measurement. What are the most important elements of impact measurement and what drives 60 Decibels' approach?

- We believe three things are essential. First, that the opinions of end-beneficiaries are systematically consulted on with respect to what is important and ultimately gets measured. Through our data methods, we aim to bring the beneficiary into the boardroom. Second, that the data collected can be compared to peer organisations. This ensures organisations aren't assessing their work in isolation but rather can get a sense of their relative performance; seeing how your performance compares to others is a great motivator for decision making. And, third, that the data is collected at the speed decision makers need and a price they can afford; great data shouldn't cost the earth and take years to deliver.

2. Is 60 Decibels methodology suited to all types of impact investments, or are there certain sectors or impacts that are most aligned?

- We develop our own proprietary tools to measure social impact, as well as using tools out there that make most sense, for example, the Poverty Probability Index. As we continue to explore, alongside the sector, the best ways to understand the impact of products/services on climate and the environment from a customer-centric view, we will use a range of available tools, for instance life cycle measurement (LCM). But for any organisation that affects an individual's or household's lived experience – whether in terms of objective measures such as a Living Income or subjective indicators like a perception of personal autonomy - our data is collected direct from the people who do (or do not) experience that impact. Consequently, this is sector agnostic, though many of our clients are currently in the agriculture, off-grid energy, and financial inclusion sectors

Case for Impact monitoring: A conversation with 60 Decibels

25

Community Report 2021

3. Within the energy access industry, what trends has 60 Decibels noticed in the last 1-2 years?

- We've definitely seen a strengthening focus on productive use of energy. There is a real interest in the potential economic impact of access to energy and the use of it for income generating activities. This is seen through specific products/appliances such as solar TVs, off-grid refrigerators, and relatedly, solar water pumps. But also in terms of how investors/funders are focusing on the next challenge in energy access. There's definitely a movement away from more basic provisions of energy such as solar lanterns. Another area of focus has been around consumer protection – as the sector gains more attention and as companies mature and update their financing services, there is a need to ensure the sector is protecting consumers and is above board in terms of how they are being provided for, interacted with, and treated.
- In terms of the data we have and the insights we've generated, we are also seeing a demand for more/expanded/upgraded products. As many customers complete the payments on their first (or second) purchases, they look to what can be next. More broadly though, the impact of energy access has not changed – it's highly valued by end users, has positive and wide-reaching benefits for households around well-being and quality of life, safety, security, convenience, productivity, health, education, and importantly - choice

4. 60 Decibels had an important collaboration with GOGLA to track impacts during the Covid pandemic. What were the greatest insights from this work and do you expect those impacts to continue now that the pandemic situation is improving?

- Early on in the global pandemic, from April 2020, we started collecting data from energy end-users across Africa and Asia. The Rockefeller Foundation, CLASP, SNV, FCDO, and other funders also came on board to support this initiative. Over that time, we spoke to 18,500+ people served by 50+ off-grid energy companies in 12 countries about how COVID-19 had affected their lives.
- Two years on, and we're delivering a follow up study. We're interested to see how consumers are faring now and how this may be impacting sector performance. It is also a crucial time for finance and investment in the industry – for which up to date, holistic industry intelligence will support. This is being conducted in Kenya and Nigeria with X of the original companies. Insights will be shared in a few months.

The top three key insights from the 2020 work were:

- Customers had similar levels of satisfaction with their off-grid energy pre- and post-pandemic.
- The impact of energy access is positive and significant.
- Repayments were more of a burden than before COVID-19, but the percentage of respondents reporting a burden decreased over time and ability to make payments increased, indicating promising resilience in the face of the pandemic.

You can find more in our [A Year in Review: COVID report](#) or on our [interactive COVID impact dashboard](#).

Case for Impact monitoring: A conversation with 60 Decibels

26

Community Report 2021

5. Does 60 Decibels align with any industry disclosure standards, like SASB or SFDR?

- Not yet. The main reason for this is that most of these standards have, to date, focused on assessing a relatively narrow set of social impact themes that pose a risk to financial return only. By contrast we also assess a much wider set of measures of impact that are important to beneficiaries and that both do and do not affect financial returns. You can find out more about our views on this topic in a recent SSIR article that calls for a wider definition of materiality in such ESG standards. https://ssir.org/articles/entry/esg_investing_needs_to_expand_its_definition_of_materiality

6. Do you have any concerns about “impact washing”, and how can investors (LPs) into impact funds ensure that the impact measurement methodologies are robust and transparent?

- Many. Indeed the current ESG movement could be accused of being a little misleading since it conveys a sense of being a more socially progressive investor, but at its core it continues a profit-first, people and planet second paradigm. What we're hoping is that over time we see the market move beyond the current standards and embrace impact measurement both when social issues (e.g. climate change) pose a risk to financial return, and when the pursuit of financial return might have consequences for social impact (e.g. increasing inequality). This will allow investors, large and small, to gain a clearer picture of how their investments are being used to both promote financial returns as well as a better society and planet.

7. For relatively small funds, how can impact measurement be tailored to match funds and companies' capacity to collect information and/or fund studies?

- It's a terrific question, and in truth the sector as a whole is still figuring that out. The (potentially) difficult news is that quality measurement isn't free. It involves a cost, which (like audit or legal fees) has to come from somewhere. The good news, is that the costs are coming down and the quality of the information provided is increasing rapidly in response to growing demand. There isn't a rule book to how much you should spend yet so ultimately any fund manager (and company for that matter) has to make a decision about how much they value having greater insight into the social purposes they're aiming to achieve. If you spend nothing you will know very little, the more you spend the more insight you should get – all things being equal. In time industry norms for what sort of data is expected/budget to be allocated will emerge.

8. As you look to the future, what technologies or data analytics tools can help to support impact measurement?

- Since we collect a lot of qualitative as well as quantitative data by phone some of the technologies around call recording and tone-based sentiment analysis are particularly exciting. The prospect that beneficiary responses could be understood in an increasingly automated manner, and analysis be based not only on what people say but how they say it offers some pretty eyewatering prospects for faster and even more robust impact data collection.

Technical Assistance Facility (TAF)



Background

The KawiSafi Technical Assistance Facility (TAF) was established to “augment the KawiSafi Fund’s investment strategy to achieve social and environmental impact and long-term capital appreciation primarily through investments in securities of Portfolio Companies that provide and enable access to clean energy products and services to low-income and off-grid populations in developing economies”. The TAF component will identify and address the core needs of KawiSafi Fund’s Portfolio Companies in a way that will support their scale and financial viability.

KawiSafi secured \$5M from the Green Climate Fund in support of the Ecosystem interventions of the TAF. Ecosystem Interventions are projects implemented within or outside of Portfolio Companies that address the Technical Assistance Facility’s objectives but are not directly related to Portfolio Company capacity building. These projects are expected to be predominantly implemented by Portfolio Company staff, third party service providers, or a combination of both, and, in some instances, by Acumen Capital Partners LLC, the KawiSafi Manager.

Ecosystem Interventions are divided into two primary focus areas: Consumer Protection and Gender-specific interventions, further highlighted below:

28

Community Report 2021

Subcomponent 2.1: Consumer protection



Deploying and funding mechanisms to prevent and protect consumers from the product and service risks that may arise in the event of insolvency, financial distress, operational issues or technological obsolescence of a portfolio company or its products and services. This is designed to reduce negative impact on consumers of renewable energy products in the case of financial distress, significant disruption in supply, obsolescence, or defunct products.

Subcomponent 2.2: Gender-specific interventions

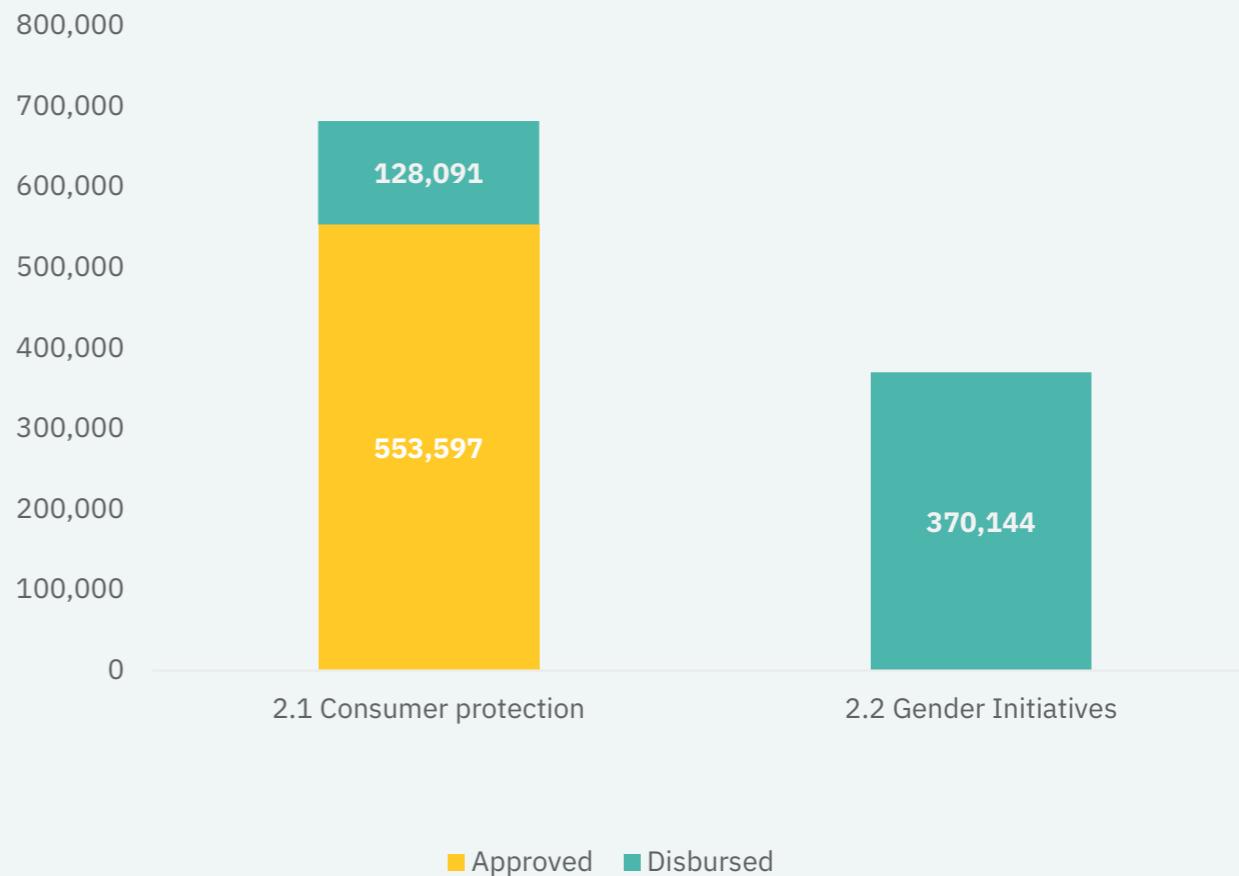


To provide support to women and girls, encompassing projects aimed at developing and deploying initiatives to multiply and measure the beneficial development impact of KawiSafi Ventures’ investments on women, particularly low-income women.

Technical Assistance Facility FY21 disbursement summary

As of December 31st, 2021	
Total Grant Funding Disbursed (2021) excl. management fees	\$498,235
• Sub-component 2.1 (Consumer Protection) disbursed	\$128,091
• Sub-component 2.2 (Gender Interventions) disbursed	\$370,144
Cumulative Grant Funding Received	\$1,410,714
Cumulative Grants Disbursed	\$654,497
Cumulative Grant Utilization (31 Dec 2021)	46%

FY2021 Grant approval and disbursement (\$)

**NOTES:**

Cumulative Grant Utilization is the cumulative grant amount disbursed as a percentage of the cumulative grant funding received from Green Climate Fund to 31 Dec 2021. This excludes management fees.

Bboxx Consumer Financing

Project Overview

- **Sub-Component:** 2.1- Consumer Protection
- **Amount of Grant Disbursed:** US\$ 128,091
- **Purpose:** To support customers in Kenya and Rwanda who were severely affected by the COVID-19 pandemic by offering free time and after sales service.

Evaluation Criteria

- **Relevance:** The KawiSafi TAF grant provided funding for COVID Relief to Bboxx's consumers. The target beneficiaries were consumers with low repayments rates directly attributable to the COVID-19 pandemic. Given additional challenges with changes to the school calendars in Kenya and increased inflation, this intervention remained relevant.
- **Efficiency:** COVID-relief support was offered within the budget. Allocated budget per customer was deployed directly to support free lighting time.
- The project timelines were delayed during the initial months of the project. However, through individual customer impact assessments and targeted communication, the grant's objectives were achieved, with 50% of the approved amount disbursed and the remaining 50% conditional on Bboxx raising additional grant financing to match KawiSafi's grant allocation.
- **Effectiveness:** 92% of the grant's objectives were met for the disbursed grant amount of \$128,064. The project timeline has been extended to 2022 to allow Bboxx raise matching funding required to unlock the remaining grant allocation.
- **Sustainability:** 83% of the 8,766 consumers in Rwanda and 92% of the 3,199 consumers in Kenya have made a recovery, i.e., made subsequent payments beyond the support period.
- **Lesson Learnt:** There is limited supply of direct receivables financing in the off-grid energy industry, which has impacted the industry's response to customer support during the COVID-19 pandemic. This has in turn impacted the size of program that Bboxx could deploy.

Impact

- 12K consumers supported with an average of 26 days of free lighting, of which 1,859 households received 52 - 62 days of lighting
- 83% and 92% of the consumers in Rwanda and Kenya made a recovery respectively, that is they made subsequent payments beyond the support period.

Grant Recipient: Strathmore Energy Research Centre

Project Overview

- **Sub-Component:** 2.2 - Gender Specific Interventions
- **Amount of Grant Approved:** US\$ 120,144
- **Purpose:** Increase the number of skilled female solar PV technicians by offering training to 60 low-income women. The training provided technical and non-technical skills to improve sector knowledge, technical competency and employability.

Evaluation Criteria

- **Relevance:** The project aimed to 1) increase the number of women with technical solar expertise through training; and 2) increase the number of licensed female technicians in Kenya. By offering technical skills and facilitating licensing of the female technicians, it is expected that this will improve their employability or increase likelihood for promotion if already employed. It also creates additional opportunities for independent income generation for the candidates.
- **Efficiency:** Due to COVID-restrictions, the training course was conducted both online and in-person. The hybrid approach was cost-effective due to lower costs of accommodation. The project timelines were met despite minor delays due to slow mobilization.
- **Effectiveness:** 100% of the grant objectives were achieved for the training component. There are delays in licensing due to Energy and Petroleum Regulatory Authority (EPRA) moratorium on solar certification in rural locations in Kenya introduced during the COVID-19 pandemic. With the resumption of registration, licensing of the qualified women is expected in FY22.
- **Sustainability:** The trainees who are absorbed into solar companies will be able to train other individuals on solar basics and transfer knowledge within their companies. Further, the curriculum developed for this training and all equipment procured to facilitate hybrid training will be utilized to roll out similar training in Rwanda in FY22 (as well as future cohorts).
- **Lesson Learnt:** Engaging EPRA from the onset of the project enabled the trainees to understand the requirements for licensing.

Impact

- 64 women trained in Solar PV in Kenya
- 55 women qualified for licensing and are pursuing certification
- 15 women from the cohort to be absorbed in Bboxx as full-time employees

FY 2021 Projects Approved for FY22 execution

Angaza

- **Sub-Component:** 2.2 – Gender Initiatives
- **Amount of Grant Disbursed:** US\$ 250,000
- **Purpose and reason for delay:** Investment of grant capital to the SIMA Angaza Distributor Finance Fund to support provision of concessionary funding to 4-6 distributors led by women or local entrepreneurs in Kenya and Rwanda. The project was delayed as the Company did not have sufficient resourcing to mobilize as planned. However, the Angaza team has indicated this will be rolled out in Q1 and Q2 2022.
- **Anticipated Impact:** 8,000 new customer connections, 4,000 current customers protected and supported during the COVID-19 period, at least 40% of the distributors supported to be female led/founded, increase of ~150 women in the workforce.

d.light Designs

- **Sub-Component:** 2.1- Consumer Protection
- **Amount of Grant Approved:** US\$ 400,000
- **Purpose:** Provide COVID-19 relief to ~50K customers in Kenya and Rwanda.
- **Anticipated Impact:** Identified customers to be supported for ~3 months. Of these, over 1,000 customers will gain permanent access to energy as the relief funding will complete their payments.
- As part of the relief program. d.light plans to also educate ~50,000 women on the benefits of clean energy products through an SMS campaign.

Redavia (Grant II)

- **Sub-Component:** 2.1- Consumer Protection
- **Amount of Grant Approved:** US\$ 25,506
- **Purpose and reason for delay:** The grant was approved to provide lease payment waivers to four customers in system critical and COVID-19 significantly affected sectors. This was the second approval for grant support to the Company, the first disbursement having been made in FY2020. However, the Company is transitioning the COVID-19 relief program and is planning to discontinue the lease waivers as economic shocks from COVID-19 subside and sectors resume growth. The KawiSafi team and TAF Manager EED Advisory are in discussions with the Company to determine the way forward and decision on whether to disburse or re-allocate the funding will be made in Q2 2022.

Gender Lens Investing at KawiSafi



Why does the empowerment of women matter?

The current situation

There have been many recent advances on women's empowerment in Africa, including many changes in laws to promote equal rights for women, however, Africa still lags other regions on progress toward gender equality.

While labour participation of women is generally high and most African countries have closed the gender gap in education, the roles occupied by women are low-paid and/or informal and even in the formal sector, there are wide pay gaps between men and women.

According to McKinsey, even for the women in formal employment in Africa, there is a significant drop of ~50% of the share of women in entry-level positions to those in top leadership roles¹. The share of firms with women as top manager in Sub-Saharan Africa has been reported to be as low as 16%.²

The funding landscape mirrors this reality. It is estimated that only 7% of emerging market venture capital goes to women-owned businesses³. Female founders are underrepresented in the sectors that attract the most financing, moreover research indicates that all-female teams remain less likely to receive financing than all-male teams, and they receive smaller amounts if they do (all-male founding teams receive US\$25 for each US\$1 going to all-female teams)⁴.

34

Community Report 2021

The missed opportunity of not investing in women



Africa could add **\$316B** to annual GDP growth by 2025 if each country followed the lead of the 'best in the region' for gender equality.¹



Organizations in Africa with 25% female share at the board level had on average **20% higher earnings** than industry average.²



Investors focusing on companies where gender diversity is an important strategy are rewarded with **3.5% higher CAGR (%)**.⁵

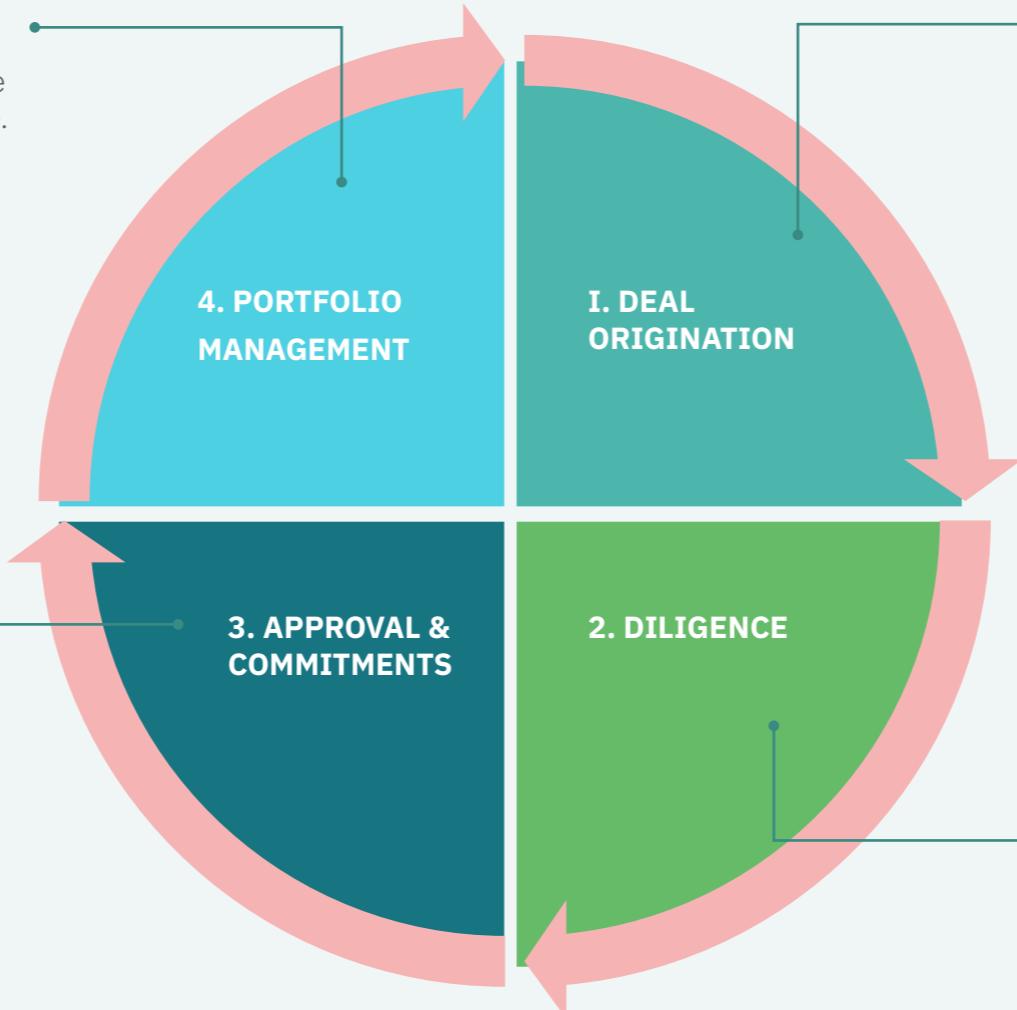
"At KawiSafi, we see both the moral and business imperative of investing in women's empowerment. It is good business to have leaders and employees who understand their customers, and have the tools to reach them. We work to understand the gender dynamics of our portfolio businesses to provide feedback and targeted support."

Michelle Haigh Osorio, Investment Director, KawiSafi Ventures

1. McKinsey (2019) [The Power of Parity: Advancing women's equality in Africa](#)
2. Fin Dev Canada (2022) <https://www.findevcanada.ca/en/what-we-do/gender-lens-investing>
3. GIIN (2022) [Navigating Impact: Increasing Venture Capital to Women-led Businesses](#)
4. World bank Blogs (2021) As African Venture Capital Booms, Are Female Founders Losing Out? [Link](#)
5. Credit Suisse (2021) [CSRI 2021 Gender 3000](#)

How does KawiSafi integrate gender best practices?

- KawiSafi runs an annual gender assessment for all portfolio companies. As at Dec 21, the KawiSafi portfolio had an average gender score of 6.05, indicating above average performance.
- The portfolio was 2X aligned with 30% of companies meeting the direct criteria.¹
- KawiSafi's Technical Assistance Facility also supports gender initiatives. \$1.7M is earmarked to support skill enhancement for low-income women; increased awareness on importance of clean energy products; and support for increased financial inclusion for women.



- The team actively engages across the ecosystem to ensure that the pipeline of investable opportunities is as diverse as possible.
- The team appreciates that the off-grid energy industry has historically been male dominated and is working to continually seek out potential women-led businesses as early stage pipeline to track.
- The team is aware of gender biases in assessment of pitches from female led teams and ensures fairness in discussion and expectation.
- The off-grid energy and clean cooking industry has a disproportionate positive impact on women in general. However, in addition to assessment of beneficiaries, the team also reviews the founding teams commitment to gender inclusivity in addition to other ESG risks and considers these during the due diligence process.

1. 2X Challenge was launched at the G7 Summit 2018 as a bold commitment to inspire DFIs/IFIs and the broader private sector to invest in the world's women. Criteria available here <https://www.2xchallenge.org/criteria>

Understanding the carbon opportunity with BioLite

Understanding the Carbon Opportunity with BioLite (I/II)

Interview with BioLite for Community Report 5/17/2022

BioLite is a leading manufacturer of off-grid energy consumer products for outdoor recreational and household energy use. The company has a unique track record of product development and sales channels across both developed and emerging markets, including solar and cookstove products targeting off-grid communities in Africa. The company has a specialized distribution business model with sales through independent distributors across the globe. The company has also been a pioneer of developing carbon credits, leveraging the international carbon markets to access climate finance and lower the consumer prices for their products. KawiSafi invested in BioLite in 2020 to drive its expansion in Africa.

We spoke to Erik Wurster, VP of Environmental Markets and Sustainability at BioLite, to understand the company's journey selling carbon credits to expand the reach of its clean cooking products in Africa.

Q: BioLite is a first-mover in selling carbon credits based on the offsets from its clean cooking products. How did BioLite get started in this area?

- BioLite developed a high-quality stove with multiple benefits to users, including the high thermal efficiency which reduces the need for wood or charcoal (leading to emissions reductions as well as time and cost savings to users), reduction of particulate matter in the air (resulting in health benefits to users), and charging capability for electronic devices, including mobile phones. The cost to produce an ultra clean burning stove of this nature resulted in a relatively high price point, which was challenging for the target market. However, the carbon savings are substantial: each cookstove can avert several tons of CO₂e per year. This creates an opportunity to use the sale of carbon credits to reduce the price of the stove, thereby enabling a much greater reach for a more sustainable, healthier product.
- BioLite took a bet on this early, willing to be patient and make a commitment to developing a carbon program. In 2015, they brought me in to build the carbon program. I had been working in the carbon finance field since 2007, previously with E+Co and UpEnergy. The company's first carbon contract was executed with a European sovereign counterparty in 2016 for the sale of certified emissions reductions (CERs) generated from 2016 to 2020 under the United Nations Clean Development Mechanism (CDM).

Understanding the Carbon Opportunity with BioLite (II/II)

Q: Carbon markets have been very volatile over time, with prices having dropped to nearly zero ~10 years ago. Could this happen again? How does BioLite manage the unpredictability for its business? What factors should project sponsors consider when structuring carbon deals?

- First, it is important to understand the context for the carbon market, which is actually comprised of multiple end-markets with different characteristics. There are several dozen regulated compliance markets globally, including the EU, California, and South Korea, for example. In these markets, certain entities are required by law to offset their carbon emissions. The crash ten years ago was specific to the EU emissions trading scheme and how it was structured, leading to a mismatch in supply and demand. Today, that market no longer allows international offsets. In addition to the compliance markets, there is now a robust voluntary market. From a certification and verification standpoint, the voluntary market generally follows the same process as the regulated market, with different governing bodies. Instead of the UN CDM, the most common verification standards are Gold Standard and VERRA.
- So while there has been volatility in pricing, it has not affected all markets in the same way and as a result has not been as dramatic as some perceive. In addition, there are a number of important ways for companies to manage the carbon market risk. In particular, we focus on the following approaches:
 1. Seek forward contracts. When available, forward contracts help to secure the demand for the credits over the course of a program, allowing for upfront security for the volume and price of the offtake.
 2. Pre-finance carbon credit sales. There is a delay between when the product is sold and the funding is needed, and when credits are issued and the resulting revenue received. Only after a product is in the market for at least a year, and data on its performance has been collected and verified, can any revenue be recognized for the carbon credit sale. This makes it exceedingly difficult to use that carbon income to subsidize the product pricing. As a result, we pre-finance our carbon sales with an upfront contract based on the expected performance of the carbon program. This transfers some of the risk onto the financing partner, who receives a range of

return based on the actual performance and pricing. Previously, pre-financing was only possible with a firm forward contract. More recently, we have seen increased investor interest in the carbon market, including providing pre-financing based on spot sales in the voluntary market.

Q: What have been the greatest challenges in implementation?

- There are many important challenges and we have built the resources to manage these.
- First, there is an involved process to issue and validate carbon credits, which ensures their quality. We have built a team, including staff members in our Kenya office, to be able to implement our carbon programs. Auditing and verification require an intensive effort with extensive data collection. We need to know where each of our stoves are and track their performance. We submit technical reports to the governing bodies and third-party auditing firms.
- Second, historically the carbon markets have been very opaque, with limited information on pricing. This allowed certain market participants to benefit from price differentials that were not clear to issuers. We have been encouraged to see greater price transparency over the last 6-12 months. This ensures that more of the value of the carbon credit comes to the actual producer, and not to carbon trading intermediaries.
- While we have built a specialized team to build the carbon business within BioLite, it is also possible to outsource. There are firms who provide end-to-end services. This may be simpler for some firms, but it may also be an expensive option, which limits the upside to producers.

Q: What does the future hold for carbon in clean cookstoves space, and for BioLite?

- We are just at the start of our work in carbon, and there is so much more we can do. Growing our carbon sales directly allows us to sell more clean stoves, improving users' lives, and the opportunity is enormous. We are entering ten new countries in Africa right now.



Appendix

What We Are Reading

REPORT: COP26 The Glasgow Climate Pact

After 13 days of intense negotiations, COP26 concluded on Saturday 13th November 2021 with every Party at COP26 - representing almost 200 countries - agreeing the Glasgow Climate Pact.

NEWS: KRA fails in bid to retain tax on gas (Dec 21)

Kenya Revenue Authority (KRA) lost a bid to retain the 16 percent tax on cooking gas in changes to the law aimed at making the commodity affordable. They had petitioned Parliament to retain the tax on grounds that its reduction to eight percent would see it lose out on Sh4.02 billion in revenue in the year to June.

NEWS: Carbon Offset Prices Could Increase Fifty-Fold by 2050

Prices for carbon offsets – verified emissions reductions equivalent to one ton of carbon each – could be as high as \$120/ton or as low as \$47/ton in 2050, according to research company BloombergNEF (BNEF).

40

Community Report 2021

NEWS: Private Sector Investment in African Grid Development (Dec 21)

Achieving Sustainable Development Goal 7 (SDG7) is crucial for unlocking wider development progress in Africa. As such, it has attracted substantial efforts from a range of local and international stakeholders over the past decade.

REPORT: Off-Grid Energy 2030 (Aug 21)

How can off-grid energy solutions increase the resiliency of communities to adverse climate shocks? What will increased connectivity and digital finance innovations mean for financial inclusion? How will the off-grid sector play a role in gender equity and vice versa?

RoadMap to E-Mobility – Kenya (Dec 2021)

Powering sustainable mobility is shifting from a dependence on energy from oil wells to electric power sources, and this shift will affect businesses, geopolitics, national economies, the environment, and the climate.

Powering Africa's Green Growth – beyond adaptation and resilience (Nov 21)

As the world grapples with climate change and its implications, Africa's strength comes from its unity. A continent that is vibrant, fast-growing, energetic and diverse. And, a key player in showing the way to a low carbon future.

NEWS: Reframing climate justice for development: Six principles for supporting inclusive and equitable energy transitions in low-emitting energy-poor African countries (Oct 21)

Advancing inclusive and equitable energy transitions is one of this century's most vital global challenges, and one in which development finance will play a crucial role. References to justice and equity are widespread in international climate policy and are increasingly being used by development organizations to guide their own work, including support for energy transitions.

Our Media Highlights

KawiSafi Ventures recognized in Impact Asset 50 2022 list



KawiSafi Ventures has been recognized in the Impact Asset 50 2022 list ('IA 50'). The IA 50 list recognizes firms demonstrating a wide range of impact investing activities across geographies, sectors and asset classes

InspiraFarms expands in the Southern African region with a formal presence in Zimbabwe (Sep 21)

Zimbabwe has become a key market for InspiraFarms, with the Zimbabwean horticultural sector growing rapidly in response to the increasing demand for fresh fruit and vegetables in the European Union (EU), UK, Middle East, Far East and Regional markets.

41

Community Report 2021

BioLite Wins Cooper Hewitt's National Design Award (Sep 21)

BioLite is honored to receive the prestigious 2021 National Design Award from Cooper Hewitt, the Smithsonian Design Museum. Winning the Product Design category, this award celebrates BioLite's role in using the power of design to change the world through its physical consumer products.

Lendable Plans to Raise \$100 Million for Africa, Asia Deals (Oct 21)

Lendable Inc plans to raise \$100 million by the first half of 2022 to finance small-and medium-sized businesses, including off-grid energy projects, in Africa and Asia. The Nairobi-based fintech financier, with offices in London and Singapore has received \$49 million in commitments for the MSME Fintech Credit Fund from backers including Dutch lender FMO, Calvert Impact Capital Inc, and FSD Africa.

Angaza Partners With d.light, Off-Grid Solar Leader (Jun 21)

Angaza was thrilled to announce their partnership with d.light, the industry-leading provider of reliable, affordable, and accessible distributed clean energy lighting and power system solutions for households and small businesses.

OPES Solutions launches new solar module line for vehicle integration (Sep 21)

Solar panel manufacturer OPES Solutions and Fraunhofer Center for Silicon Photovoltaics CSP have developed a flexible standard solar module for vehicle integration. SolFlex is based on crystalline solar cells and achieves around 30% more power per square meter than current flexible modules that use thin-film technology.

Sistema.bio closes over \$15MM in financing to scale climate-smart clean energy technology for farmers (Sep 21)

Sistema.bio announces the close of a Series B investment round of USD\$15.6MM that included a mix of equity, debt and non-dilutive capital to support the continued growth and scale of the company's innovative waste-to-energy technology and business model.

KawiSafi Ventures team



Amar Inamdar
Managing Director



Michelle Osorio
Investment Director



Marcus Watson
Investment Director



Angela Muraguri
Investment Manager



Collins Mwangi
Investment Associate



Mary Wanjiku
Operations Manager



**Jackline
Mwangi-Ruvaga**
Office Manager



Chad Larson
Senior Advisor

Community Report 2021

Contact:

Amar Inamdar, Managing Director
T: +254 716 447 632
E: amar@KawiSafiVentures.com

