

KENYA CLIMATE VENTURES



IMPACT REPORT 2022

OUR VISION

Our Vision is to accelerate access to transformative climate smart solutions in Kenya.

OUR MISSION

Our mission is to be the most reputable commercial climate impact investor for private sector companies in their early and growth stage, with adaptive and unique investment criteria, partnership and value creation through financial and technical assistance.



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Foreword from the Board Chair

In June 2016, the World Bank, with funding from Danida and Ukaid, established, capitalized, and piloted a new climate investment facility - Kenya Climate Ventures Limited (KCV) in Kenya. This facility focused its support to early growth climate smart enterprises whose de-risking gained market traction leading to commercial success that guarantees sustainable transformative impact in the targeted underserved rural, peri urban and humanitarian markets. While the World Bank Project funding phase formally closed in June 2020, KCV has evolved into a climate impact investment company with a cumulative investment portfolio valued at KES 401 million. The World Bank's end-of-project evaluation outcome rating was Satisfactory, given the satisfactory relevance of the objective; Moderately Satisfactory rating for efficacy in achieving the objectives; and a Highly Satisfactory achievement of the outcome. This evaluation confirmed KCV's relevance for entrepreneurs in the climate-friendly sector as well as the early-stage financing landscape in Kenya.

Post-World Bank project phase, KCV rolled out its strategy covering the period 2020/21 – 2023/24, to consolidate the transition from project to a fund with an institutional set-up, packaging its track record, mobilizing additional funding, and delivery of a scale-up phase. This phase, required additional financial resources.

During the period under review, Danida, World University Service of Canada and Kenya Climate Innovation Centre continued supporting KCV to a

achieve operational sustainability, strengthen its human capital and governance, increase access to appropriate capital and business growth support to climate smart SMEs, ensuring effective and efficient portfolio management of existing investments and achieving uninterrupted fundraising capacity.

To date, KCV has achieved a portfolio of 22 climate smart investments, valued at KES 401 million; realized 4 successful existing investments; double digit returns on its portfolio investments; impacted 43,600 households with increased income, food security, access to markets, and affordable clean energy; 290 MSMEs have accessed business opportunities from supported value/supply chains; created and sustained 11,520 gainful jobs; leveraged US\$ 9.1 million, being the value of follow-on capital leverage to portfolio enterprises, and mitigated emission of 320,400 tons of Co2.

Going forward, KCV continues to accelerate development and access to climate-smart solutions by providing tailored risk capital and targeted technical assistance, as well as business growth support to early growth-stage enterprises, contributing to their commercial success and sustained transformative impact in target markets, communities, and the environment in Kenya and the region.

Mr. Eric Kimani, MBS

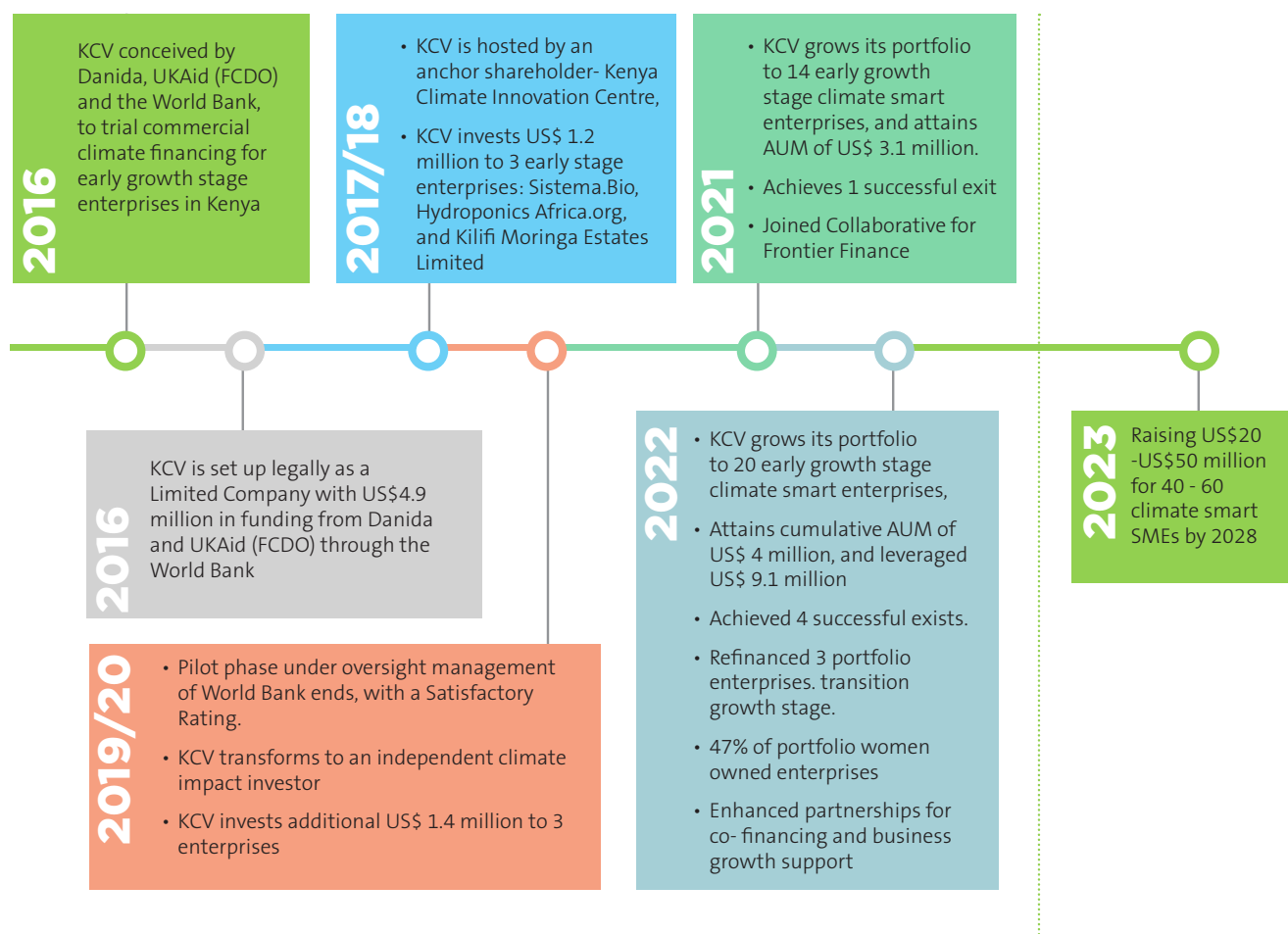
Board Chair

Kenya Climate Ventures Limited

KCV Growth Story

Established in 2016, Kenya Climate Ventures Limited (KCV), is an impact investment fund seeking to accelerate access to climate smart solutions by providing tailored and targeted financial and technical assistance, as well as business development support (including managerial back-up) to early and growth stage businesses. Kenya Climate Ventures Limited invests in the agribusiness, commercial

forestry, renewable energy, water and waste management sectors. Our focus is private sector Small and Medium Enterprises (SMEs) in their early and growth stages whose commercial growth and success have a positive impact on target markets, communities and the environment in Kenya. The portfolio and assets at KCV have grown fourfold since 2016, as illustrated in the figure below.





Impact

Customers/ Households benefiting



43,600 households access markets, clean and affordable cooking and lighting solutions



337,500 people enhanced their adaptive capacity for climate resilience through alternative livelihoods and incomes, access to affordable clean energy solutions for domestic and productive use, access to diverse nutrition.



290 access business opportunities within the supply chains invested and supported **240** industries and institutions access energy efficient briquettes for heating

Jobs and Gender



22 investments made



47% women owned businesses;

42% women led businesses supported



Est. 11,500 direct and indirect decent jobs created and sustained

Environmental



6.4 MW of clean off-grid clean energy installed



320,400 tons of CO₂ emissions reduced



Est. 3 million tons of agricultural wastes recycled

Leverage



US\$ 9.1 million worth of follow-on financing; 94% is commercial capital

Portfolio Business Growth Support



22 portfolio enterprises/ investments received targeted and wholesale business growth support in export market linkage, investment readiness support and brokerage, financing management and report, ESG, sales and marketing, governance, health and safety, human resource and talent management, access ERP systems

Portfolio Business Performance Matrix

18 INVESTMENTS

Actual range of deal size
US\$ 50,000-152,000

4 successful exits; financial
sources for energy access,
macadamia processing,
agriwaste to energy
enterprises.

2 successful refinancing;
5 years in financial
services and waste to
energy enterprises.

04 INVESTMENTS

- Average deal size
US\$ 400K - 600K
- 01 successful refinancing; 4 years
- US\$ 402,000 debt in macadamia
processing

EARLY STAGE
INVESTMENT
WINDOW

GROWTH STAGE
INVESTMENT
WINDOW

US\$ 2.52
million
invested

Leveraged
US\$ 5.9 million
worth follow on
commercial capital
debt & equity.

3 - 7 YEARS
Convertible Debt,
Straight Debt

US\$ 1.61
million
invested

Leveraged USD
\$2.66 million
worth follow
or commercial
capital debt only

22 investments in 19 local enterprises; agro - processors serving
local and export market; waste to energy; solar for commercial
and industrial use; energy efficient cooking, financial services,
commercial forestry and conservation, biofertilizer



Unlocking Refugee Self Reliance and Resilience

More than 100 million people have been displaced from their homes globally, and their numbers continue to swell. The scale of such migration creates large underserved markets of consumers and a pipeline of micro, small and medium-sized businesses seeking to serve them. Refugee settlements and camps in a remote area of north-west Kenya are experiencing growth in economic activity – a signal of the investable opportunities to better serve refugees and host communities in East Africa.

Kakuma, one of the world's largest refugee camps, shelters nearly 200,000 refugees and displaced people - mostly from Somalia, South Sudan and the Democratic Republic of Congo. It is estimated to be a US\$56 million market with the camp contributing 29% (KES 1.7 billion, or \$16.5 million). On a daily basis, refugee traders and business people from among host communities converge on market places at the camp, in the settlement and within Kakuma town to participate in socio-economic activities. The market has growth potential if the traders and enterprises are supported with appropriate financing, business knowledge and relevant legislation.

To date, the more than 2,000 small and mid-sized businesses operating in the vast camp and surrounding areas generate tens of millions of dollars in annual sales, employing tens of thousands. The businesses include trade and light manufacturing; small-crop agriculture and food production; fashion and cosmetics; and the provision of essential services such as health, education and housing.

Despite the economic vibrancy, entrepreneurs and business owners are underserved by banks and other conventional financial institutions (FIs). To seize the opportunity is Kenya Climate Ventures, an impact investor focusing a portion of investments in the region to private sector companies that are either led by, employ or serve refugees and host communities.

Entrenched in KCV's strategy, investing with a refugee lens provides opportunities for refugees to participate in the decision-making of their own economic growth through entrepreneurship, as well as facilitating integration with host communities. An updated Refugee Act, passed in 2021, promotes new opportunities and rights for refugees and asylum-seekers in Kenya. Thus, KCV has invested over KES 55 million, the equivalent value in local currency, of flexible debt into climate-smart ventures and enterprises in Kakuma Refugee Camps and Kalobeyei Settlement in northern Kenya. For KCV, investment in refugee markets "is pioneering and de-risking", helping enterprises to access more financing. In addition, over KES 80 million follow-on blended investments have been leveraged from Kakuma Kalobeyei Challenge Fund by IFC and Siemens-Stiftung.

Additionally, KCV invested refugee-lens ventures meet basic needs with climate smart sustainable solutions within the camps, settlements and neighboring markets in adjacent counties. For instance, Rafode Limited, a non-deposit taking micro finance institution, provides retail and micro household asset financing to 4,500 refugees and host communities to start alternative livelihood - businesses, access affordable energy efficient cookstoves and solar lighting. Hydroponics Africa Limited, produces and distributes hydroponic farming systems to over 1,000 refugees and host community members in the water stressed region to grow and sell food, achieving 30% efficiency in water use. Sunken Limited opened a manufacturing facility to fabricate and distribute energy efficient stoves, benefiting over 3,000 people with sustainable jobs, improved and efficient cooking facilities and reduced exposure to health risks.



Halima Mohamed, a Sunken distributor displays the cookstoves at the Kakuma Refugee Camp

Investing in Women and Youth

According to the IFC 2021 report, Investing in Women: New Evidence for the Business Case, the gap between male and female employment rates has closed by only 0.6 percentage points over the last two decades. The financing gap for women entrepreneurs remains at an estimated US\$285 billion. The inequities between men and women are exacerbated due to the lingering effects of the global financial crisis. This underscores the private sector's need to take the lead in supporting gender intelligent business solutions. Kenya Climate Ventures Limited supports growing sustainable businesses while focusing on youth and women entrepreneurship. Initial support through financial collaborations is the first step, as are job opportunities, and longevity, continued productivity and growth in the future. The financing gap for women entrepreneurs remains at an estimated US\$285 billion, underscoring the private sector's need to take the lead in supporting gender intelligent business solutions.

Despite having limited access and control to management, conservation, exploitation and utilization of natural resources, women and youth rely heavily on natural resources for food and sustenance, and have much information on the best way to manage these resources, thus making them play a better stewardship role.

Kenya Climate Ventures Limited (KCV) applies a gender lens in its entire investment process. Not only do we seek to accelerate the development of climate-smart solutions by supporting early and growth-stage businesses, but we also emphasize the significance and contribution that women and youth make to portfolio enterprises. Aligned on the 2X challenge criteria of 51%, KCV attained an investment portfolio of 47% women-owned and 20% youth-owned enterprises, created and sustained 11,500 jobs - 52% of the total being employment opportunities benefiting women and youth.



Women sorting macadamia nuts at Exotic EPZ



How KCV Portfolio Companies Contribute To the SDGs

1 NO POVERTY 	End poverty in all its forms everywhere	
<ul style="list-style-type: none"> Hydroponics Africa Ltd. Kilifi Moringa Estates Ltd. Sunken Ltd. Botanic Treasures Ltd. 	<ul style="list-style-type: none"> Dash Crop Ltd. Exotic EPZ Ltd. Mace Foods Ltd. 	337,500 people enhanced their adaptive capacity in climate resilience through alternative livelihoods and income access to affordable clean energy solutions domestic and productive use, access to diverse nutrition.
5 GENDER EQUALITY 	Achieve gender equality and empower all women and girls	
<ul style="list-style-type: none"> Kilifi Moringa Estates Ltd. Rafode Ltd. Sunken Ltd. Kings Biofuels Ltd. Vuma Biofuels Ltd. Botanic Treasures Ltd. Agri Flora Organic Solutions Ltd. Onja Uone Ltd. 	<ul style="list-style-type: none"> HornAfrik Gums Ltd. Dash Crop Ltd. Exotic EPZ Ltd. Mace Foods Ltd. Ofgen Ltd. Acacia Innovations Ltd. Rafode Ltd. 	47% women owned businesses invested/supported. 42% women led enterprises invested/supported. 20% youth owned enterprises invested.
7 AFFORDABLE AND CLEAN ENERGY 	Ensure access to affordable reliable and modern energy for all	
Sunken Ltd. Ofgen Ltd.	6.4 MW of off grid clean energy installed for commercial, industrial and domestic use. 15,000 households access affordable clean energy products and services for lighting and cooking.	
8 DECENT WORK AND ECONOMIC GROWTH 	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	
Hydroponics Africa Ltd. Kilifi Moringa Estates Ltd. Rafode Ltd. Sunken Limite Kings Biofuels Ltd. Vuma Biofuels Ltd. Lentera Africa Ltd. Botanic Treasures Ltd. Agri Flora Organic Solutions Ltd.	Onja Uone Ltd. Shammah Rown Group Ltd. Horn Afrik Ltd. Dash Crop Ltd. Exotic EPZ Ltd. Mace Foods Ltd. Ofgen Ltd. Acacia Innovations Ltd.	11,500 decent jobs created and sustained in productive sectors of manufacturing, financial services, agri processing and forestry.
13 CLIMATE ACTION 	Take urgent action to combat climate change and its impact	
Kilifi Moringa Estates Ltd. Rafode Ltd. Kings Biofuels Ltd. Vuma Biofuels Ltd. Botanic Treasures Ltd. Agri Flora Organic	Solutions Ltd. Shammah Rown Group Ltd. Dash crop Ltd. Ofgen Ltd. Acacia Innovations Ltd.	525 tones of bio fertilizer produced and distributed to smallholder farmers. Est. 3 million tonnes of agricultural waste recycled. 320,400 tonnes of CO ₂ emissions reduced 8.042 tonnes of waste recycled.



Pumwani Boys School,
Nairobi. A skilled cook gets
ready to prepare lunch by
igniting briquettes supplied by
Acacia Innovations.

Reducing deforestation, creating value with agricultural waste

As prescribed in the Africa Union's Agenda 2063, and at the center of discussions at the just concluded COP27, is the desire for climate-resilient communities, markets and economies fueling the support for green energy, energy efficiency and nature-based solutions. The focus is on biodiversity through integrated sustainable land management, forestry, oceans and ecotourism, while creating green jobs. The sustainable utilization of forests, rivers, lakes is considered, and at this point, waste has a value. Sustainable use of agricultural wastes is at the center of energy efficient cooking.

Forest conservation is of socio-economic importance; more so that forests lower ozone depletion rates, hence moderating the rate of global warming and climate change. Trees absorb greenhouse gases, regulate water flows and provide stable habitats for flora and fauna. Cutting down trees (for whatever reason), exposes biodiversity to the effects of climate change and therefore, must be moderated at all costs, to reduce the severity of droughts and floods, and tame the worsening global water crisis.

In June 2022, Kenya reportedly surpassed the minimum target of 10% tree cover to achieve 12.13% and achieving an 8.83% forest cover. Further results generated through the National Forest Resources Assessment 2021, indicate that the country has 7.1 million hectares of tree cover representing 12.13% of the total area, and 5.2 million hectares of national forest cover representing the 8.83% of the total area. However, although the national target for forest cover is 30% by the year 2050, it is still unevenly distributed across the country.

Like other countries, Kenya is committed to global reforestation and restoration initiatives. In 2016, through the Bonn Challenge, Kenya announced a significant commitment to restore 5.1 million hectares of land, amounting to nearly 9% of its total landmass. To action the commitments and stop the

cycle of recurring droughts, the then President called for a billion trees to be planted over the next decade – growing five billion trees in five years and an additional 10 billion by 2032.

In order to achieve these huge commitments, a collaborative effort must be upscaled – but there is a challenge. The production of charcoal and direct use of firewood contribute significantly to Kenya's deforestation. These are readily available fuel resources and a ready-to-use primary source of cooking fuel. The ever growing national population also raises the demand for charcoal and firewood.

Notably, 85% of Kenyan households use biomass as source of energy for cooking. From an industrial perspective, for instance – tea factories utilize a lot of firewood to dry the tea. Unfortunately, the tea drying process aggravates deforestation, as the factories are responsible for cutting down millions of trees each year to keep up with the demand for production.

Estimates show that tea factories use up to approximately 1 million cubic meters of firewood annually. On the flip side, this is an indication that any alternative to charcoal and firewood commands a definite market. What about the direct use of unprocessed agricultural wastes? Would it make business sense?

Based on experience, agricultural waste burns rapidly, and does not fit into the shape and construct of traditional stoves. It also requires retrofitted industrial boilers, thus the direct burning of uncompressed and bulky agricultural wastes is inefficient and ineffective – loose agricultural waste material has limited energy value per volume, and is hence uneconomical. Additionally, agricultural waste is costly and cumbersome to handle during collection, transportation and storage. In other words, elites would say – this is a costly supply chain.



But there could also be some value for money, if there is an investor who is willing to take the risk of financing such a shambolic supply chain to create an alternative energy-efficient and high calorie product that will gradually replace charcoal and direct use of firewood for over 35 million Kenyans, industries and institutions..

An impact investor is already partnering with private enterprises to scale up manufacturing and distribution of energy efficient high calorie briquettes. Kenya Climate Ventures invested over KES 37 million to **Acacia Innovations**, **Vuma Biofuels** and **Kings Biofuels** to supply over 1,000 tons of briquettes per month to schools, hotels and industries, thus reducing their biomass energy budget by 30%.

While **Kings Biofuels** produces briquettes from sawdust (and rice husks), **Vuma Biofuels** and **Acacia Innovations Limited** apply sugarcane bagasse – a

waste menace at the sugar factories in Western Kenya. Kenyan tea factories are their largest customers to dry the tea, thus, saving the destruction of millions of trees in Kenya. Supported by government tax relief interventions, such initiatives have capacity to scale and create more jobs.

In the short term, the government could zero rate taxes on briquetting equipment and explore local fabrication of equipment as a long-term measure to lower the costs of briquettes to be able to compete with charcoal and firewood.

Public private sector partnerships to plant a billion trees per annum, could bring the target of a 30% forest cover closer by 2030, solve water scarcity, reduce perennial drought and floods, restore reliable rainfed agriculture, reduce the country's contribution to greenhouse gas emissions and ultimately enhance climate resilience.

Clean Cooking for Better Health and Savings

In Kenya, waste is a major issue, with most of the low and middle-income areas lacking collection systems. Article 42 of the Kenyan constitution states that every person in Kenya is entitled to a clean and healthy environment. However, while the government sets policies, frameworks and standards to govern waste management, there are gaps in the way waste is actually collected, disposed of, up-cycled or recycled.

Agricultural waste is classified under the solid waste category. These are non-product outputs of production and processing of agricultural products that may contain material that is beneficial to humans but whose economic values are less than the cost of collection, transportation, and processing for beneficial use. It includes manure and other wastes from farms, poultry houses and slaughterhouses; harvest waste; fertilizer run-off from fields; pesticides that enter into water, air or soils; and salt and silt drained from fields.

Women in rural areas, especially in the developing world, are a clear example of a group with a particularly high vulnerability because of the challenges they face when it comes to accessing resources and services that they have rights over, such as social security, health, work, paid work, education, land ownership, access to energy and financing services, to mention but a few.

Historically, rural women have been and remain agents in the fight for food security, in our collective struggles to end poverty, malnutrition and poor health. According to [FAO](#), they represent between 60% and 80% of the world's agricultural workforce. Yet, the transcendence of their work as food providers, as well as their role in local economies and the wellbeing of our social fabric, is unrecognized.

With the intervention of Sistema.bio (www.sistema.bio/ke), women's access to resources is changing for the better and improving the quality of life for

women in rural areas in Africa, Latin America and India. In Kenya, the company has guaranteed women access to energy and organic fertilizer by providing quality and affordable biodigesters for household use. Biodigesters are a source of biofertilizer and low cost clean energy for cooking and heating, thus removing the need to continue collecting firewood.

Amidst recovery from COVID 19 and related containment restrictions, the use of biogas eliminated the need for women to move around and be in direct contact with people, contrary to the past when they used to collect and use firewood. This helped them avoid the risk of contagion from COVID-19 among family members, and especially among women and children. In addition, with the slowed down economic activity due to the pandemic, some of the users created new sources of income through biogas and continued to benefit from the financing program for biodigesters, cookstoves, water heaters and other biogas equipment, therefore giving users opportunities for accessing the technology while adapting to their economic situation.



Sistema.bio dung beetle projects that are used in schools and highly populated areas (like refugee camps) to aid in sanitation. The systems use human waste to provide clean cooking energy.



The benefits are real. Rose Karwirwa is customer to Sistema.bio in Meru County, Kenya. She is 56 years old and married, with three children. Rose owns four cows, and used to spend KES 3,000 (approximately US\$30) per month on firewood, KES 3,000 (approximately US\$30) on charcoal and KES 2,200 (approximately US\$22) on liquid petroleum gas (LPG) to cover her family's energy needs – mainly for cooking. She also used to spend two to three hours a day in her smoky kitchen and had developed a chest complication from the inhalation of soot and wood smoke. In February 2020, she met a neighbor, who told her that all this could change if she invested in a Sistema.bio digester. Rose convinced her husband and they took the leap. After paying a minimal deposit, their loan was approved and a Sistema 12 Biodigester was installed on their farm. Three weeks later, Rose started cooking with biogas! She is able to service her loan at the rate of KES 4,020 (approximately US\$40) per month – this amount is half of what she used to spend on firewood, charcoal and LPG combined! With eight more payments to go on her lease-to-own plan, she will soon be the owner of her biodigester and continue to spend her savings on other household needs. Rose loves cooking with biogas. It saves time and money, and is absolutely safe for her health!

Industrial demand for biogas requires large-scale technology that serves dairies holding between 20 and more than 300 cows, and modular solutions - comprising a solids separator, anaerobic digesters, gas lines, filters and biogas end-use systems, such as boilers, chaff cutters, milking machines and electrical generators with a 10-year guarantee. With over 300 large systems installed across the country; the company has demonstrated that large scale farmers, medium-scale industries and institutions could replace up to 80% of their energy needs by adopting renewable energy solutions.

Isaac Rono, one of the company's clients said, *"I had just acquired a wood-powered pasteurizer when a friend invited me to his farm in Menengai. This visit opened me up to unending growth opportunities by utilizing renewable energy on my farm. We acquired a biogas-powered pasteurizer. Today, we are not only*

the largest milk collection center in the region but have also ventured into dairy value addition producing both yoghurt and cheese." A spokesperson at Samburu Girls Foundation, said, *"We recently acquired a DungBeetle system and I must say that it is a game-changer. We now have a sustainable waste management system and our environment is odor-free. We no longer source firewood for our cooking needs."*

Over the years, Sistema.bio has proven and scaled the concept of providing quality and affordable biodigesters to rural customers through customized pay plans backed by technical after sales service. Through Sistema.bio's innovation, unsustainable sources of fuel – like firewood and charcoal are eliminated and replaced with clean cooking fuels. Chemical fertilizers are also replaced by organic fertilizers.





Beth Njatha, a delighted customer of Sistema.bio, beams with joy in her kitchen next to the biogas cooking station.

To achieve great market traction, such climate smart enterprises companies, like Sistema bio, require appropriate financing and business growth support. In 2017, Kenya Climate Ventures identified the potential of Sistema Bio to support the sustainable supply of clean energy and affordable cooking solutions, by providing low interest capital with a longer tenure of six years to enable the company commence operations in Kenya and further de-risk the business.

To date, more than 36,000 people have benefited from biogas, and over 7,500 bio digestors have been installed for smallholder farmers and institutions. The company has also recycled over 4.1 million tons of agricultural waste and mitigated the emission of 109,500 tons of CO₂.

Sistema.bio is a testimony to sustainable solutions for Kenya's ever-changing energy demand landscape, an enterprise that has achieved market traction, resilient revenues that drive strong and consistent cash flow, unmatched return on invested capital and transformative impact in the climate resilience space.

Green Power for Industries

For the past the years, the energy sector had been depressed. The Covid 19 pandemic struck at a time when most of the sub-Saharan African countries were still struggling to achieve SDG 7's clean and affordable energy objectives. The economic and social disruption was felt everywhere globally, with the gains on reduction of extreme poverty being quickly eroded as more households fell below the poverty line. Additionally, the war in Ukraine has disrupted markets in a significant way. Supply chain challenges and major price hikes are some of the major effects being felt across the globe. Oil and gas prices have risen, and with the decrease in supply, demand for fossil fuels has also increased significantly, which some now consider a setback to the green energy sector.

Nonetheless, the current situation presents opportunities for the green energy sector. At the industry level, companies that are heavily reliant on fossil fuels are faced with the question of sustaining this reliance and looking to complement or replace fossil fuels with renewable energy sources. The same introspection is happening in countries whose grids are non-green.

The Intergovernmental Panel on Climate Change Report 2019, identified the pathways to curb global warming to 1.5 Degrees Celsius, including the need for swift modifications in energy systems to avoid worse climate impacts and the necessity of decarbonizing our economies.

A growing market opportunity exists for companies investing in renewable energy. The energy demands are rising constantly globally, and with the growing need and urgency to diversify from fossil fuels, this demand could only grow larger. Commercial and industrial (C&I) customers seeking energy efficient solutions to access stable power supplies reduce the overall cost of power while integrating renewable solar energy in a sustainable manner. Customers' energy demand profiles are monitored over a period of

time to inform the design of the energy solution; for example, whether or not it is to install energy hybrid (solar/genset) or off-grid (storage) solar PV solutions to compliment the grid supply or fossil fuel generator supply.

In a worst case scenario for Kenya, businesses experience at least four power outages in month, totaling 24 hours of lost productivity, resulting in a loss of an estimated 5.4% of their sales. This is the reason why 66% of businesses own diesel powered generators for back-up. Off-grid solar provides cleaner and more reliable powering than generators.

As this market evolves, customer sensitization requires a step-up. For potential customers, the limited understanding of the benefits of on-site solar is a constraint. If the C&I market was to develop rapidly, there is a need to explore a more collective, effective and sustainable approach to customer awareness - this could be innovatively modelled into the financing instrument with clear milestones, and perhaps repayment reliefs.

In Kenya, local developers have estimated a pipeline of 26 MW projects that require affordable and patient financing. With an estimated capex for a C&I solar installation ranging from US\$0.70 - 1.40/W, the total value of immediate financing need stands at US\$27.3 million (approximately KES 2.73 billion), an estimated 20% to 30% of which is demanded in local currency.

While high-cost outlays are required to actualize the growing demand for solar power by commercial and industrial customers, the local financial sector remains largely absent from this market. Tapping into this opportunity, Kenya Climate Ventures has invested debt in Ofgen Limited to design and install a 1.5 MW off-grid solar plant at Williamson Tea Factory in Kaimosi, Vihiga County. The plant is fully commissioned and supplies uninterrupted 70% of the factory power needs, both day and night, hence



Solar Power Plant

reducing its power bills, managing power outages and increasing its revenues.

In the past two years, Kenya Power and Lighting Company experienced an estimated 54.8% decline in revenue from industrial users, at a time when solar is becoming a cheaper and more reliable stake. For example, Total Kenya has solarized over 107 service stations with the installation of 3,390 solar panels on the roof tops. The oil marketer joins a growing list of companies that have set up solar powered stations for own-use to slash power costs and stem

an unreliable grid power supply - a trend whose impact has stirred up the revenue stream of the local electricity distributor.

Overall, the need for patient, affordable and a longer investment tenure, coupled with technical assistance and business development services, will persist. Kenya Climate Ventures will continue to service this market to secure the United Nations' sustainable development goal number 7 which focuses on the provision of sustainable, affordable, reliable and modern energy for all.

Upscaling Partnerships for Investing in Food Systems

From an impact investment fund stand-point, Kenya climate Ventures (KCV) partnered with a small and medium enterprise, Mace Foods Limited (MFL), a Kenyan food processing company specializing in African indigenous vegetables, to advance medium-term private finance with a relatively flexible interest rate and repayment schedule. The collaboration resulted in the expansion of the vegetable processing facility, leading in turn to the engagement of more smallholder farmers under contract farming arrangements in various parts of the country. The partnership has also generated a growing interest from commercial banks offering short-term finance for farmers' organizations and aggregators.

The Food and Agriculture Organization (FAO), through its AgrInvest-FS project, is building on existing dynamics within the African Indigenous Vegetables (AIV) value chain leading to preliminary but significant progress with the coordination of value chain actors and the synergies across support and financing instruments used, that are necessary to increase SDG-oriented investments in this value chain.

AgrInvest-FS supported the revitalization of the African Indigenous Vegetables sector multi-stakeholder platform in Nyamira County and facilitated linkages between local farmers to build on such investment patterns and enhance the local value chain. The Nyamira North Women Savings and Credit Co-Operative Society, a small financial cooperative operating along the entire African Indigenous Vegetables sector, now sells to Mace Foods Limited under contract farming and accessed financing from local banks to acquire a cold storage facility to improve quality and quantity of the vegetables. In turn, MFL supports the women, along with the County Government, to ensure they have a consistent supply of vegetables.

A broader analysis of the national finance ecosystem identified portfolio guarantees as suitable

blended finance instruments to effectively target a specific value chain, by covering the credit risk of intermediaries for the creation of a portfolio of new loans there.

A guarantee instrument could be launched to specifically target AIV and interested investors, building on the "proof of concept" provided by the Nyamira case, and by the early successes of impact investors such as KCV and portfolio guarantees such as the NASIRA Facility managed by the Dutch Entrepreneurial Development Bank (FMO) after providing EUR 50 million to Equity Bank. This would allow for the upscaling of the type of investment partnerships seen in Nyamira which, together with an Africa Indigenous Vegetables policy package and a multi-stakeholder platform at national level, could have a cascading effect on increasing access to SDG-oriented finance for all players in the value chain. The SDG-orientation of these investments could come from both the sustainability benefits of increasing the uptake of African Indigenous Vegetables with improved diets, agro-biodiversity, climate resilience and rural women's incomes; and the features of the accompanying finance instruments, e.g. those by KCV and FMO's selected investees based on their expected impact on sustainability and support for increasing it, including through due diligence processes.

Gender and Capacity development for business: Opportunities to deliver gender sensitive development support services

In Kenya, many women-led/owned MSMEs are graduating from accelerators, incubators and advisory services facilities. However, despite the support and various business advisory services received, MSMEs continue to exhibit start up tendencies that curtail commercialization and impact traction within the market as expected. Few accelerators and incubators prepare their graduating



Women employees at Mace Foods Limited prepare vegetables for processing at the company

clients for realistic and market informed adaptation and growth. It is also felt that existing accelerators, incubators, transaction advisors and other BDS providers do not provide customized advisory for mitigation and/or adaptation MSMEs. In many instances, MSMEs receive support that is not tailored or responsive to the specific challenges that women-led/owned enterprises face in the marketplace. Most of the facilities deliver standardized and very short capacity enhancement support – where the measure of success is mostly in terms of a high number of start-ups graduating within the defined incubation/acceleration term. About 46% of MSMEs in Kenya close within a year of founding, and another 15% in the year after that¹ and possibly 80% on their fifth year of founding. In many instances, the services they

receive are not tailored or responsive to the specific challenges that women led/owned enterprises face in the market place. Extensive support and handholding are required to ensure the failure percentage is decreased, especially on investment readiness.

There is a need for comprehensive assessment and strategic planning for graduating enterprises and for the MSMEs to transition from their start-up to scale-up phases of growth.

Graduating women-owned and/or led enterprises enter a market where they face numerous challenges, they are unable to solve. Key challenges include: limited access to affordable and appropriate capital; weak financial management and managerial capacity amongst others. Although many investors have required physical assets as collateral, the fee charged on interest rates is exorbitant and often underrates

¹ <https://www.capitalfm.co.ke/business/2018>

the level of investment readiness of women MSMEs due to weak financial management systems. To ensure success for such enterprises, there is a need for tailored business advisory services, demand driven access to finance (seed capital), targeted customized support to address follow-on investment readiness and strengthening financial management systems in a more inclusive, effective, efficient and accountable manner. While impact investors have supported capacity building for such enterprises, FIs have not measured to the market expectation, for example, to address women/youth enterprise capacity issues. Thus, KCV provides expert support for women-led/owned MSMEs in financial management and systems development, investment readiness and access to an interactive platform with potential investors as they gradually mature for follow-on financing. To ramp up access to investment readiness support to SMEs, the impact investor is developing an InvestLink Platform that will support interactive investor–entrepreneur capacity gaps assessment, monitor fundraising milestones and investment commitments to portfolio and pipeline SMEs.

The increase in economic empowerment enhances women’s access to economic resources and opportunities including jobs, financial services, property and other productive assets, skills development and market information. In this regard, gender equality plays a pivotal role in promoting a balanced economic income for both men and women. It also provides significant benefits in fortifying social cohesion, social justice and the well-being of society by reducing barriers to inclusion and advancing opportunities for equality. It also signifies an aspiration to transform structural inequalities, behavior patterns and social norms thus leading to social change and sustainable development which

are crucial elements in the fight against climate change and related poverty in economy-wide sectors.

The opportunities that can be explored to deliver gender sensitive development support services for business and entrepreneurial initiatives revolve around enhancing synergies between national and county government initiatives for a more coordinated approach for higher impact. County mapping to identify women’s investment opportunities offers a real opportunity to add value by targeting capacity development initiatives. Enhancing the technical capacity of women is a key opportunity for reducing barriers, and the clear identification of needs is geared towards sharpening the focus for interventions, strengthening linkages with financing institutions to tailor their products specifically for women, youth and persons with disabilities (PWDs). This calls for matching the capacity needs of the target population, scaling up training and mentorship, creating a database of women entrepreneurs and match-making based on skills and opportunities, developing training kits and certifying trainers, establishing County business transformation & information centers, sensitizing and training women on the available opportunities. In addition, feasibility initiatives could inform design and nature of business infrastructure development for example, market stalls, mobilizing resources for sensitizing women and men on the role of women in peace-building and leadership, establishing more and well-equipped rescue centers for girls, providing basic utilities such as water and electricity, as well as intensifying reproductive health campaigns while providing social protection, especially for women living with terminal illnesses are some of the great opportunities that could be tapped to enhance capacity and expand opportunities for women and youth-led economic activities.

KCV Investment Portfolio

Investment	Business Model
1. Hydroponics Africa Limited	Hydroponics Africa Limited is a pioneer manufacturer and marketer of hydroponic agricultural systems in Kenya. The business brings an innovative climate smart agriculture solution that gives smallholder and medium-scale farmers access to a high quality, cost-effective and sustainable method of farming. The company has three revenue lines; sale and installation of hydroponic food and livestock fodder systems, sale of vegetables, consulting and training services.
2. Exotic EPZ Limited	Exotic EPZ is a licensed processor and exporter of nuts and oils. They aggregate raw macadamia nut from small-scale farmers (with the provision of agronomy support to increase yield) and processing of nuts for export markets in Europe. The company has established raw materials collection centers offering better prices to the farmers. From a climate tech viewpoint, macadamia trees act as carbon sinks, absorbing CO2 at a rate of 13 pounds per tree each year.
3. Kilifi Moringa Estates Limited	Kilifi Moringa Estates propagates moringa trees through a network of smallholder farmers then processes the seeds and leaves to make products for the cosmetics and health industries. The main product that the company has been exporting to date is bulk moringa oil. In 2020 they finalized the construction of a processing facility for moringa leaf powder. The plant grows in the tropics in semi-arid climates (low rainfall, sandy soils, high sunlight), making it a viable solution for areas affected by drought. Moringa is capable of growing in difficult climatic conditions hence increases the capacity of the population to cope with the effects of climate change.
4. Mace Foods Limited	Mace Foods Limited is a Kenyan private limited company working with over 2,000 smallholder farmers spread out in Kenya, Uganda and Tanzania. Mace foods is involved in processing, packaging and export of natural sun dried and preservative free chilies, vegetables, herbs and spices for institutional clients in the export segment and local market. The company is utilizing sustainable agricultural practices with restricted use of agro chemicals.
5. Agriflora Organic Solutions Limited	Agri Flora manufactures organically granulated and liquid fertilizer. The company addresses the problem of soil degradation by manufacturing a slow-release fortified organic fertilizer which has carbon-based compounds; Calcium, Zinc, Manganese, Magnesium, Iron, Molybdenum, Selenium and many others that help improve plant quality. The fertilizer's composition of balanced nutrients leads to improved yield of plants and reduces toxic load by keeping chemicals out of the air, water and soil.
6. Acacia Innovations Limited	Acacia Innovations manufactures, brands, markets and distributes eco-friendly and cost-saving non-carbonized briquettes (Kuni Safi Briquettes) made from sugarcane waste to schools, hotels and other small and medium enterprises and institutions.
7. Botanic Treasures Limited	Botanic Treasures produces Moringa Oleifera products such as: green gold nuts, moringa pods, green gold spirulina, More life, Botanic detox etc. The company assists farmers with linkages to financial service providers and capacity builders who conduct training and provide seedlings for the smallholder farmers.
8. Dash Crop Limited	Dash crop supports development of climate-resilient crops value chains. These crops include sorghum, finger millet, amaranth, pulses and cassava. The company operates through an innovative contract farming model whereby they provide the farmers with seeds and fertilizer, harvesting machines for sorghum and agronomic support services. Dash crop processes the harvests into flour sold to supermarkets, schools and health facilities.

9. Onja Uone Limited	Onja Uone is an agribusiness company in the Agri-processing subsector. The company aggregates raw macadamia nuts from small scale farmers and own nucleus farm and processes them for local consumption and export thus increasing farmer incomes and promoting the cultivation of trees which enhances climate change mitigation.
10. Sunken Limited	Sunken Limited is a company in the renewable energy sector that deals with the production and distribution of energy efficient cookstoves. In addition, the company is a contracted distributor of Enos solar water pumps and d. Light solar lighting systems.
11. Horn Afrik Gums Limited	HornAfrik Gums Limited is an aggregation and processing business located in Northern Kenya and operating in the counties of Marsabit and Wajir. The company aggregates and processes gums and resins to sell in the markets of China, Saudi Arabia, Qatar and UAE.
12. Kings Biofuels Limited	Kings Biofuel manufactures briquettes as an alternative source of energy to enhance climate change mitigation. The briquettes are made from bio-waste and are low cost, high energy and environmentally friendly. Bio-waste raw materials include Sawdust, coffee husks, rice husks, and maize cobs. The company's target market are industries and schools.
13. Lentera Africa Limited	Lentera Africa Limited is a soil health and nutrition company established in 2016. The company provides farmers with affordable and effective silicon organic fertilizer. The company's main product is silicon foliar feed. The company's blend of fertilizers increases plants' tolerance to dry weather conditions and increases overall yields.
14. Ofgen Limited	Ofgen provides complete turnkey solar power solutions for Commercial and Industrial PV projects. The company's main product offering is the design, installation, financing and maintenance of commercial and industrial solar PV energy solutions for private consumption, with sizes ranging from 80kWp to 10MWp. KCV invested 32% of the total project cost of Ofgen's Williamson Tea Power Project in Kaimosi.
15. Rafode Limited	Rafode Ltd is a micro-finance organization working with the rural low-income earners in Kenya with the objective of increasing household and MSMEs access to renewable energy products. The company sources solar home systems as well as efficient cookstoves (e.g., Jikokoa cookstove) from the manufacturers and then offers these products on credit to its customers.
16. Vuma Biofuels	Vuma Biofuels is a Kenya-based sustainable energy manufacturer that produces briquettes from aggregated bagasse, that is, discarded sugarcane husks. It provides industries and institutions in Kenya with a superior firewood-alternative energy source.
17. Shammah Agribiz Group Limited.	Using tissue culture technology, the company propagates quality tree and fruit seedlings for sale to private smallholder farmers, private plantation/ orchard developers, and public sector tree planting programs contributing to increased forest cover in various counties. Additionally, the company provides clients with training on plantation/ orchard development and market linkages. Shammah Agribiz Group Limited works with a network of timber harvesting and treatment companies that provide primary markets to farmers on a contract farming model.
18. Sistema.bio Kenya (Good Farmland Management Ltd.)	Sistema.bio Kenya markets, installs and services modern modular flexible bio-digester systems and accessories produced by its parent company in Mexico. Sistema Kenya is well placed to disrupt the bio-digester market in the region by introducing competitively priced high-performance bio-digesters and add-on productive accessories.



KCV Financial Performance for 2022

Statement of Income and Expenditure

INCOME	Kshs
Loan Interest income	27,870,435
Other income	4,467,067
Receipts from DANIDA	20,316,500
Receipts from WUSC	1,347,709
Total income	54,001,711
EXPENDITURE	Kshs
Audit fees	1,308,307
Business licenses and permits	111,000
Directors Fees and expenses	1,816,070
Finance and Strategy Committee	485,715
Governance, Remuneration and Nomination Committee	342,858
Employee benefits expenses	33,228,715
General Insurance expenses	286,598
Investment Committee expenses	594,286
General Office expenses	2,101,742
Bank charges	114,537
Office rent and service charge	6,144,770
Trainings	934,770
Telephone	1,689
Travel	122,523
Due Diligence expenses	480,024
Publication and Communication	308,621
Amortization expenses-Intangible assets	906,753
Fund Raising Activities-KCV Business Plan Development Support	1,283,217
Dues and Subscriptions	93,122
Secretarial fees	1,166,960
Depreciation	1,299,320
Exit evaluation expenses	130,000
Technical Assistance to Enterprises	3,366,370
Repairs and Maintenance	7,490
Monitoring and evaluation travel visits	1,461,068
WUSC Project Expenses: Financial and Investment Management	883,700
Total Expenditure	58,980,225
Profit/ (Loss) Before Tax	(4,978,514)

Meet Our Board



Eric Kimani
Chairperson

Eric is a business leader, entrepreneur and philanthropist with extensive experience in the management of organizational change and emerging technology. Founder of Palm House Dairies Limited, Palm House Foundation and Harvest Consulting Limited. He has served as a non-executive director at I&M Bank Ltd and Kibo Fund - Mauritius, Institute of Certified Public Accountants of Kenya (ICPAK) HelpAge International and Brooke East Africa. Eric is a former CEO/MD at Sameer Africa Ltd and KTDA Ltd. He has worked at Williamson Tea and Dormans Coffee, Sasini Tea and Coffee and Kenya Association of Manufacturers. Eric is a recipient of the 2008 Volunteer of the Year Award (VOYA) in Kenya and the 2011 Moran of the Order of the Burning Spear (MBS) by His Excellency the President of Kenya for service to community. Eric holds an LLB (Hons) from the University of London and a Diploma in Law from the Kenya school of Law. He is a Fellow of Certified Public Accountant (FCPAK), a Certified Public Secretary (CPSK) and an Advocate - the High Court of Kenya.



Victor Ndiege
CEO

Victor has over 18 years' experience in investment program design, development and management, fund raising, fund management, business modelling and assessment, public private partnership frameworks and investment linkages. Prior to joining KCV, Victor worked at Africa Enterprise Challenge Fund, KPMG - International Development Advisory Services, providing technical sector expertise, leading investment and portfolio management, enterprise development and impact monitoring and reporting of the renewable energy businesses and climate smart technologies in East, West and Southern Africa, and Asia. Victor is trained in Agricultural Economics and Strategic Management.



Risper Alaro - Mukoto
Director, Investment
Committee; Finance &
Strategy Committee

Risper is a business leader with experience in financial and operational management in the investment and financial services sectors and an Associate Certified Coach (ACC) at Coach Development Institute - Africa (CDI-Africa) and from International Coach Federation (ICF) - USA. She has served as a non-executive director in the Bank of Kigali PLC/BK Group and Nairobi Securities Exchange PLC; a faculty/advisor at CDI Coaching Group; a former Managing Director at Centum Business Solutions and now Group Finance Director at Centum PLC. She has attained the Women in Executive Leadership League from Strathmore Business School. Risper holds the Archbishop Desmond Tutu Fellowship from African Leadership Institute, Cape Town and Oxford. Risper has a Masters of International Business Administration from United States International University Africa, Kenya and a Bachelor of Arts, Business Management from Moi University Eldoret. She is a holder of ACCA Fellowship (FCCA) from the Association of Chartered Certified Accountants (ACCA) United Kingdom and a member at Institute of Certified Accountants of Kenya (ICPAK) and the Association of Chartered Certified Accountants (ACCA).



Job Kihumba, Director
Governance, Human Resource
& Nominations Committee

Job is an Executive Director at the Standard Investment Bank with expertise in investment and finance management, corporate finance, institutional development, corporate governance and leadership development. He has interests in environmental management, GHG emissions, climate change adaptation and mitigation. He served as the first CEO of the Nairobi Securities Exchange and as Vice-Chair of the Centre for Governance; he is the current chairperson of the Institute of Certified Investment and Financial Analysis and Chairperson of the College of Fellows of the Institute; a founder member of the Institute of Directors, Kenya; Chairperson of the Institute of Certified Public Secretaries of Kenya. Mr. Kihumba is a commonwealth certified trainer in corporate governance and holds a Master's Degree in Business Administration from Buckingham Management Center (UK) and a diploma in Management Science from Kenya Institute of management.



Charles Wasike
Director, Governance, Human
Resource & Nominations
Committee; Finance &
Strategy Committee

Charles currently works for Royal Danish Embassy Nairobi as a Programme Officer. He has over 18 years of work experience in Project and Fund Management. His experience entails working at local, national and supra-national program set-ups. The countries of experience besides Kenya are Uganda, Tanzania, Ethiopia, Burkina Faso, Southern Sudan and Liberia. His major areas of focus have been Development (agribusiness, agroforestry and renewable energy). Charles holds a Masters' Degree in International Studies University of Nairobi, two undergraduate degrees (BSc. Statistics – Moi University and BA in Philosophy – Urbaniana Pontifical University, Rome) and a Diploma in Religious Studies. Charles is the Danida representative to KCV Board.



Ian Cooke
Director, Chair - Finance &
Strategy Committee; Member
– Investment Committee

Ian is an expert in sustainability and environmental sector with an extensive international network. An investment professional with experience in advising and investing in technologies, projects, JVs and business, Ian has experience in designing, financing and delivering innovative activities with public funders, corporate and impact investors. He is presently practicing independent advisory and investment management activities in environment and sustainability sectors in London and Geneva. He has worked with Carbon Trust, and previously worked as Venture Director at Greenhouse Investments, Strategy and Business Development Director at AsiAlliance.com Limited, Corporate Development Manager at Downer Edi Limited, Senior Project Manager at 8 Kumagai Gumi/ Acciona, KEC Joint Venture and as a Consulting Engineer at Stewart Scott Incorporated in Johannesburg. Ian is trained on Civil Engineering from University of Cape Town, Finance, Strategy and Entrepreneurship from Cranfield School of Management and has an FCA Authorisation.



Joseph Murabula
Director

Joseph Murabula is the Chief Executive Officer of the Kenya Climate Innovation Center (KCIC). Joseph has more than 20 years experience in project finance, corporate finance, investment advisory, and fundraising.

Joseph holds a Master's degree in Finance and Financial Law from the University of London in the UK, and is a Certified Expert in Climate and Renewable Energy Finance, a Certified Public Secretary (CPS), and a Certified Public Accountant of Kenya – CPA(K).

Joseph is also a member of the World Intellectual Property (WIPO) Green Core Committee (www3.wipo.int/wipogreen) and a board member of Kenya Innovative Finance facility for Water (www.kiffwa.com).

Partners



**MINISTRY OF
FOREIGN AFFAIRS
OF DENMARK**
Danida



NORDICIMPACTFUNDS
NORDICWBCLEND2



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