

The Kenya Climate Innovation Center: How it Operates and Lessons for Clean Technology Incubation

The Kenya Climate Innovation Center (KCIC) is a clean technology business incubation center established by the World Bank Group's Climate Technology Program to support Kenya's green enterprises. Launched in 2012, the KCIC was the first ever Climate Innovation Center (CIC) to be established under the program. This brief shares the KCIC's operating model as it has evolved after four years of operations and reflects on the lessons for similar clean technology incubation centers that can be drawn from the KCIC experience.

More on the Kenya CIC's programs and results can be found at www.kenyacic.org or www.infodev.org/climate.



Introduction

The Kenya Climate Innovation Center (KCIC), launched in Nairobi in September 2012, was the first Climate Innovation Center (CIC) to be established by the World Bank Group's Climate Technology Program. CICs are locally owned and operated institutions that provide promising clean technology entrepreneurs with the knowledge, capital, and access to markets required to launch and grow their businesses. The network of CICs has grown to seven centers globally covering the Caribbean, Ethiopia, Ghana, Morocco, South Africa, and Vietnam and additional CICs are being planned.

The KCIC in 2016 is supporting more than 130 startup and early-stage Kenyan companies based on innovative technologies and business models in climate-related sectors, such as renewable energy, bioenergy, climate-smart agriculture, water, and low-carbon services. The KCIC has become a recognized center for green growth in Kenya, ranked at the top of the 2014 edition of the prestigious University Business Incubators (UBI) Index and named "[Most Promising Business Incubator](#)" in Africa.

This brief provides an overview of how the KCIC operates and extracts lessons from the KCIC model that could guide the development of similar clean technology incubation centers in developing countries.

Background

Planning and Funding

Prior to launching the KCIC, the World Bank consulted over 120 local clean technology stakeholders about the design of the center, including research and development (R&D) organizations, universities, business incubators, industry, government, entrepreneurs, investors, non-governmental organizations, and bilateral donors. The eight-month stakeholder engagement process, which analyzed current innovation capacity and market gaps for 16 clean technology sectors in Kenya, was critical for building local interest and ownership. The result was a locally tailored [KCIC business plan](#) fit for Kenya's nascent but vibrant clean technology and entrepreneurial context.

Funding to establish the center was raised by the World Bank

from the United Kingdom's Department for International Development (DFID) and the Danish International Development Agency (Danida), both committed supporters of Kenya's climate, energy, and private sector development objectives. An initial grant of \$4.5 million (all figures are in USD unless otherwise noted) was provided in 2012 by the World Bank to finance the KCIC's establishment and first four years of operations. A second grant of \$4.9 million was provided in 2015 to establish an early-stage financing facility, the Kenya Climate Venture Facility (KCVF). Long term sustainability of the CIC and the KCVF is predicated on the KCIC being able to tap diverse sources of funding ranging from fees-for-services, sponsorship, investment returns or public financing.

Governance Arrangements

With funding secured, the World Bank led a competitive process to identify implementation partners. A consortium of local and international organizations was selected, consisting of Strathmore University, Kenya Industrial Research and Development Institute (KIRDI), the Global Village Energy Partnership (GVEP), and PricewaterhouseCoopers (PwC). These partners bring complementary strengths to the center, such as private sector advisory experience and clean technology expertise, allowing them to provide the range of organizational and technical competencies required to manage such a complex technical organization.

The center is physically housed at Strathmore University's business school building in Nairobi, providing an appealing space and location for entrepreneurs to meet. The day to day operations are overseen by a CEO and a management team consisting of an Entrepreneurship and Innovation Manager, an Outreach and Partnerships Manager, and a Finance and Administration Manager. The KCIC has 12 full-time staff covering entrepreneurship and innovation, outreach and partnerships, monitoring and evaluation (M&E), research and policy, communications and knowledge management, finance, procurement, and administration. The center plans to more than double its staff to meet the growing needs of its entrepreneurs.

The KCIC is registered as a company limited by guarantee with an independent board. Originally, the consortium members sat on an Advisory Committee and provided guidance on strategy, technology, policy, and implementation. After registration,

the KCIC newly formed a Board of Directors that includes both consortium and independent members. The KCVF is being established as CIC Investment Ltd, a separate legal entity, with an independent board and investment committee (IC). The KCVF will be led by a Chief Investment Officer. The KCIC reports to the World Bank to ensure that the program objectives are met in a timely and efficient manner, following the terms and conditions agreed between the World Bank and the donors.

Figure 1 lists the partners of the KCIC.

Operating Model

The KCIC admits clients on a rolling basis. Interested companies submit a basic online form and KCIC's admissions evaluation committee (AEC) – composed of KCIC staff and sector experts – makes an initial determination of the company's (i) fit with the KCIC's target sectors, (ii) technical and commercial feasibility, (iii) potential environmental and social impact, and (iv) commercial progress to date. Companies clearing this first assessment then meet with the Innovation and Entrepreneurship Officer who discusses their business ideas and plans and conducts due diligence. Promising applicants are then presented to the AEC, which determines whether the company should be admitted to the KCIC. New

clients and the KCIC sign a Letter of Agreement (LoA) that outlines both parties' commitment for collaboration.

As of March 2016, 626 applications have been received and 132 have been accepted as clients. Among these, about 50 companies are currently actively engaged with the KCIC. See **Figure 2** to learn more about the KCIC portfolio.

During the admissions process, a KCIC officer is assigned to the company. If the company is admitted, the officer originally assigned to evaluating the application stays with the company throughout the time it is supported by the KCIC. Upon admission, a work plan is drawn up by the assigned officer and the client to outline the client's needs and services to be offered. This document is used by the KCIC officer to review the client's achievements against targets on a monthly basis. Companies also have access to other officers knowledgeable in a desired topic or field on an as-needed basis.

Throughout their time as clients, the KCIC provides each company with a range of group services open to all (e.g. accounting trainings, business strategy sessions), as well as customized support (e.g. proof of concept grants, specific regulatory support). Depending on the types and costs of services sought out and availability of services providers,

Figure 1. Partners of the Kenya Climate Innovation Center

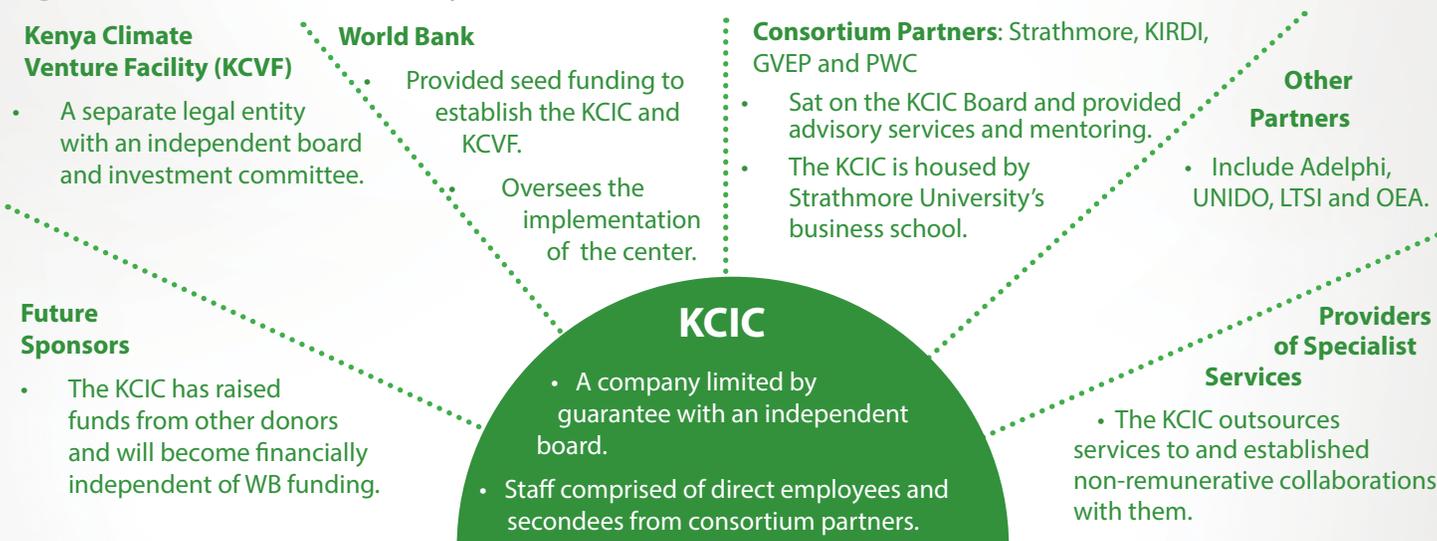
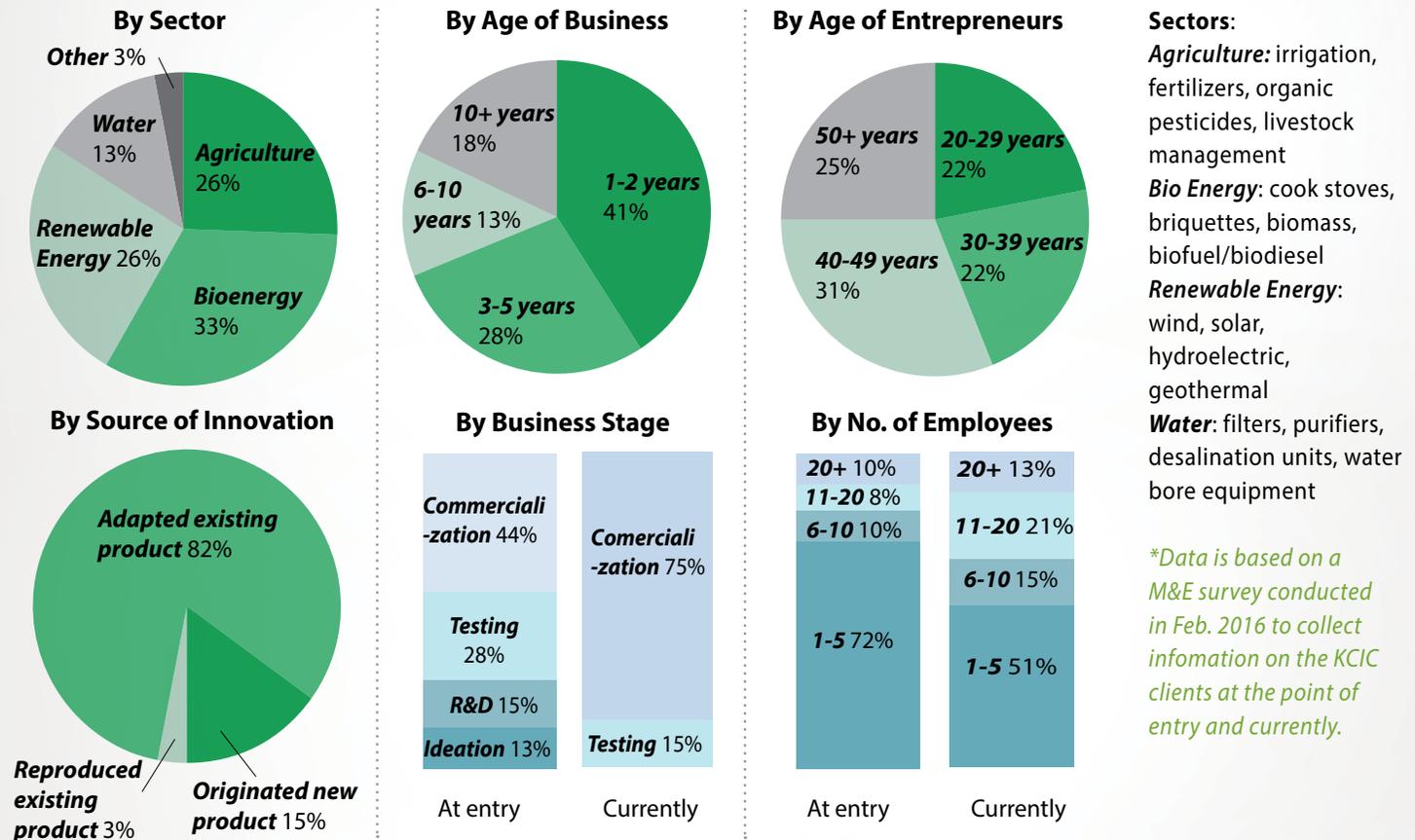


Figure 2. KCIC Portfolio at a Glance*



the KCIC pays the cost of some of the services offered to the admitted clients. Some of these services are provided by the consortium partners that have relevant expertise to meet the needs of the KCIC clients. However, the KCIC frequently refers clients to external advisors and service providers when they have the most relevant and cost-effective offerings.

A company is able to remain a KCIC client as long as the company is showing clear progress toward its business goals and commitment to the customized plan for services agreed between the KCIC and the company. As the KCIC evolves in 2016, it is seeking to establish more formal exit requirements for clients to ensure that companies that are not making progress are not absorbing resources that could be used on

other clients.

Client Services and Programs

Business Advisory

The KCIC provides business and technical expertise and mentorship to equip its clients with the skills and knowledge they need to turn technologies into viable businesses. The range of business acceleration services, provided by both internal staff and external experts, include the following:

- Business development: access to online toolkits for developing a business plan and review by the KCIC staff

- HR: designing organizational structures and recruiting new staff
- Finance and legal: setting up accounting systems, taxation, compliance, and incorporation
- Intellectual property rights (IPR): assessment of IPR and patent applications
- Operations: strategic advice on marketing and distribution
- Product development and design: expert reviews of engineering design, testing of prototypes

The KCIC is establishing a broader network of business and technical mentors and professional service firms (accounting, legal, marketing) that are based in Kenya in order to allow readily available access for KCIC clients. Recruitment of high quality mentors is a considerable challenge due to the limited number of individuals with deep and relevant experience in the local area, as well as the challenge of designing an incentive structure to retain and grow this pool of mentors. The voluntary system of mentoring that is used in developed market incubators and accelerators with access to broad local mentor pools does not easily translate to Nairobi, which has a limited number of high quality mentors.

Enabling Environment

The KCIC promotes development and improvement of the market conditions for its clients' products. In many cases, this simply means the KCIC assists its clients with understanding the implications of policies and regulations including changes to both that occur on a regular basis. The KCIC has also promoted changes in policy and regulations to remove impediments to more rapid clean technology penetration into the market. The direct interaction of the KCIC with its clients positions the KCIC to effectively engage with the government on the day-to-day business challenges experienced by clean technology entrepreneurs. See **Box 1** for an illustrative example.

Access to Finance

The KCIC currently provides direct and indirect financial support to its clients. The KCIC provides select clients with a Proof-of-Concept (PoC) grant of up to \$50,000. The company's application outlining the idea and the use of grant funding is first reviewed by a PoC eligibility committee, consisting of

internal and external business and technical experts, before a funding decision is made by the KCIC's investment committee. PoC grants are given in tranches after successful completion of set milestones. As of March 2016, 20 companies have been awarded a total of about \$782,000 in PoC grants, 85% of which has been disbursed to the grantees after completion of milestones.

The KCIC also facilitates access to external funding, such as private venture capital, local banking institutions, awards, and grants. The KCIC supports its clients on preparing a pitch deck and a budget, as well as organizing matchmaking events between KCIC clients and potential investors. So far over \$8.1 million has been invested in KCIC clients by third parties, including the Africa Enterprise Challenge Fund, Spark

Box 1. KCIC Removing Regulatory Barriers for Client

Safi International is a KCIC client aiming to replace wood, charcoal, and kerosene stoves with clean, safe, and affordable ethanol-powered cook stoves within the Kibera slum, one of the largest slums in the world. The company's patented burning technology utilizes low-grade ethanol, called denatured alcohol, which is a byproduct of the alcohol production process. The KCIC supported Safi to lobby the government to lower the taxation and excise duty of denatured alcohol — which was set at the same rate as the alcohol used for beverage production — so that it can be used for household fuel. After a series of meetings with

the KCIC and Safi, the Kenyan Revenue Authority exempted the excise duty on denatured alcohol in December 2015, removing a significant hurdle for Safi and other companies working on ethanol-based biofuel businesses.



International, Global Alliance for Clean Cookstoves, Nestle, Innovation Prize for Africa Awards, and others. In November 2015, three KCIC clients working on solar pumps and irrigation systems were chosen as [winners of an agriculture innovation competition](#) organized by the U.S. Agency for International Development (USAID). They were among 15 innovators selected from a pool of 871 applicants to receive up to \$2 million in funding and acceleration support under the competition “Powering Agriculture: An Energy Grand Challenge for Development.”

Finally, the KCVF has been established to provide capital, along with high engagement management and technical assistance, to companies at conceptual, technology prototyping or initial market testing phases to further validate and develop their business models and prepare to scale. The KCVF aims to invest on average \$300,000 in each early-stage clean technology investee in the form of equity, quasi equity, equity-like debt, or mezzanine instruments. The KCVF will also provide management and technical assistance, as these early-stage companies require a great deal of hands-on support to get on a trajectory to scale and commercial viability.

The KCIC clients will be a principal source of deal flow for the KCVF as they become more investment ready and seek their first round of investment capital. However, the KCVF will also consider investments in companies that are not KCIC clients, consistent with the KCIC’s broader mission to support the clean technology ecosystem’s development in Kenya, as well as the sustainability of the KCVF through investments returns.

Access to Information

The KCIC organizes and participates in a number of events to promote visibility for the center and its clients. It has hosted [conferences](#) and [competitions](#) and [partnered](#) with organizations promoting entrepreneurship, innovation or green growth. Partners include 1776, L.A. Cleantech Incubator (LACI), World Intellectual Property Organization (WIPO), and Climate Technology Centre & Network (CTCN). In addition, the center promotes greater awareness of its clients’ products or services through online campaigns on [Facebook](#), [Twitter](#) and [YouTube](#), [TV interviews](#), and press releases.

The KCIC also supports its clients by educating their clients on current market conditions. The KCIC regularly supplies market

intelligence to its clients, including market opportunities, sector trends, and pricing strategy for climate technologies. Examples include bi-weekly bulletins and eAlerts for specific clients when relevant news becomes available.

Partnerships have served to provide the KCIC with additional benefits. For example, the KCIC has an agreement with WIPO for 300 hours of free training on intellectual property rights for KCIC entrepreneurs.

Access to Facilities

The KCIC provides office and meeting space. While many of its clients operate offsite, about 40 companies use the KCIC space as their main base of operation. The office facility is also used for conferences and meeting space, including the monthly networking event called “Business Meets Innovation”, which features inspiring speakers throughout the year.

KCIC clients are also offered access to prototyping and testing facilities at KIRDI, the Kenya Agricultural Research Institute (KARI), the University of Nairobi, and Strathmore University. One client, for example, has used these laboratories to measure the calorific value of fuels to assess the efficiency of their products and to ensure adherence to industry standards.

See [Figure 3](#) for some quotes from the KCIC CEO and clients.

Lessons for Clean Technology Incubators

There are several aspects of the KCIC model that could provide guidance to similar efforts.

A strong model of public private partnership

The consortium model behind KCIC successfully brought together extensive local and international knowledge and experiences from various sectors including the private sector, universities, public R&D institutes, and civil society organizations. The government of Kenya, which was consulted throughout the process of establishing the center, is keenly aware of the KCIC and featured it in the National Climate Change Action Plan. The KCIC has leveraged this to effectively lobby the government and improve the enabling environment for local clean technology businesses, as demonstrated in lowered duties and taxes for biofuels and solar products.

Figure 3. Quotes from the KCIC CEO & Clients



"Climate change is also an opportunity, especially so for the private sector."

– **Edward Mungai**, CEO of KCIC

"When you work with the CIC, you are respected more. You are accepted better."

– **Amos Nguru**, CEO of Afrisol Energy



"CIC has provided us with funds to buy the cans and the packaging machine ... Everything is possible. It's just a question of trying." – **Keek Onyokie Slaughterhouse**

"What they (the KCIC) gave us today was an idea of how the bank thinks ... so that you can present your products properly and actually get an investor interested in what you have to offer."

– **Mshila Sio**, CEO of AguaKenya



Source: <http://www.infodev.org/videos>

Comprehensive approach to business incubation services and access to finance

The KCIC provides grants to select clients, and the KCVF aims to provide early-stage capital and assist the investees with management and technical assistance. The KCIC has also supported a select group of its clients to prepare for and launch a crowdfunding campaign. The combination of providing both business incubation support and investment capital is unique compared to other Kenyan incubators, though increasingly utilized by more successful incubators globally. It is too early to tell how successful this approach will ultimately be; however, the unique design holds promise for meeting the full range of needs of clean technology businesses.

Partnerships elevate quality of services and branding

The KCIC uses partnerships to enhance business incubation service delivery. Extending beyond the consortium partners, the KCIC has partnered with KARI, WIPO, ECLOF Kenya (a microfinance organization), Nation Media Group, The Next Big Thing, Industrial and Commercial Development Corporation, International Fund for Agricultural Development, Access2Innovation, Agri Pro, University of Nairobi, SANKALP Forum, and others to elevate visibility and leverage expertise in the fields of energy, agribusiness, water, and finance. Furthermore, the KCIC is part of the World Bank's global CIC Network that connects incubators and entrepreneurs in the climate technology space in developing markets with clean technology resources globally.

Looking Forward

Over the first four years of its operations, the KCIC has successfully built a strong management team, recruited a significant number of clients, and partnered with a diverse group of organizations. These achievements have put the KCIC on the path to achieve its mission to provide a country-driven approach to accelerate the development, deployment, and transfer of locally relevant clean technologies.

The longer term outcomes of the KCIC efforts are still being understood. Clean technology businesses are challenging in that they require high upfront capital costs and long pathways to profitability. The KCIC and the World Bank's CTP are using a rigorous M&E program to monitor the KCIC's performance over time. It will measure achievement of the center's intermediate results and assess impacts to determine whether the center is achieving its overall objectives using data drawn from the CIC staff, clients, and service providers, as well as comparing observed outcomes with a counterfactual to estimate what would have happened if the project had not been undertaken. These results will shed light on both the overall performance of the KCIC and provide a collection of stories of success, challenges, and shortcomings in the years ahead.

The success of the KCIC will lie with its success as a platform to catalyze the development of the clean technology market and industries in Kenya, but also ultimately with the success of the KCIC client companies in bringing profitable, scalable, climate friendly solutions to market.

Climate Technology Program

In Brief

About Us

The Climate Technology Program (CTP) In Brief series is a publication of the World Bank Group's Trade and Competitiveness (T&C) Global Practice and infoDev. infoDev's CTP is managed by the Innovation and Entrepreneurship Unit of T&C.

CTP focuses on the growing opportunities of the clean technology sector in developing countries. Through a global network of seven Climate Innovation Centers, the program provides local entrepreneurs with the knowledge and resources they need to launch and scale their innovative business solutions to climate change. CTP In Brief is a series of knowledge briefs highlighting important aspects of the CTP global and in-country operations and research.

Learn more at www.infoDev.org/climate.

Acknowledgements

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