INFODEV'S CLIMATE TECHNOLOGY PROGRAM

# REPORT FOR JULY 2016 STEERING COMMITTEE MEETING:

FY16 Progress Report and FY17 Work Plan















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# **Chapter 1: Executive Summary**

### **OVERVIEW**

The strategic relevance of climate innovation activities in developing countries supported by the World Bank Group's Climate Technology Program (CTP) has increased dramatically. Several developments have made CTP activities increasingly relevant, most prominently, the Paris Agreement reached at COP21, with its emphasis on the private sector as a source of innovation. Related activities such as the Mission Innovation initiative, the Breakthrough Energy Coalition, and scaling of the Green Climate Fund underscore the importance of the CTP agenda. In parallel with these milestones, tremendous advances have been achieved in climate-friendly products, reflecting the green technology revolution. And developing country governments increasingly look at climate technology sectors as vehicles to boost their own industrial competitiveness.

**CTP continues to expand its activities and has achieved a number of important milestones.** With the launch of the Vietnam and Ghana Climate Innovation Centers (VCIC and GCIC) this year, the first generation of seven innovation centers is now fully established. The CICs are linked through the CIC Network, launched in FY15 and strengthened throughout the year. The Kenya Climate Venture Facility (KCVF) substantially built its capacity and is set to officially launch in July 2016. Development of 12 new CICs continues apace through Launchpad. Four new CICs are under development in cohort one, and a second cohort of eight teams has entered the first stage of designing their CICs.

The CTP is using its experience pioneering new models to draw lessons and share them in the wider cleantech and business incubation communities as well as to refine its own activities. With renewed attention on climate innovation for developing countries, CTP's work implementing CICs and related activities supporting local companies generates valuable knowledge applicable elsewhere. A range of knowledge products have been launched to capture and disseminate this experience, increasingly in partnership with complementary entities. In addition, experiences operating CICs flow across the network, enhancing the effectiveness of operational CICs and informing the design of centers still in development.

**The CTP has learned a number of lessons on operationalizing CICs in developing countries.** The CICs are often the first innovation centers of their kind in the countries in which they operate. Their administrative approvals and operationalization require longer preparation and capacity building time than more traditional institutions. Cleantech innovation is different from digital innovation due to its longer development cycle and higher capital intensity for example.

To strengthen program effectiveness, CTP has analyzed the delays and developed a series of steps to address them. While CTP's deployment of novel models may be expected to result in some delays, the program recognizes that effective and timely implementation will be essential to any program success. As such, a number of actions will be undertaken or expanded upon in FY17. In order to strengthen CIC operations, more support will be given to CICs both through the CIC Network and through World Bank supervision. In addition, as part of the CTP commitment to continuous improvement of effectiveness, a number of CTP business lines are exploring novel models to catalyze innovative climate solutions that would complement the CICs (these steps are described more fully in a section in Chapter 2 as well as in sections on individual business lines).

The CTP will continue to pioneer models and knowledge to catalyze new commercially driven climate solutions in developing countries for both environmental and economic results. The analytical and operational head start that CTP has achieved in a high-profile field is gaining substantial attention. This leaves the CTP well positioned to continue growth and expand its influence. The Work Plan lays out strategic objectives for the coming year along with specific milestones, results and disbursements.

# **KEY ACCOMPLISHMENTS IN FY16**

The CTP's *FY16 Work Plan and Budget* report for the Steering Committee Meeting laid out five strategic priorities for action during the fiscal year: (i) to launch the full complement of CICs and the CIC Network; (ii) to enhance the capacity of the CICs; (iii) to pursue innovation and dissemination of learning in models for climate technology innovation; (iv) to build out financing options; and (v) to measure results to drive learning and promote effectiveness. Below is a brief synopsis of progress achieved in these five areas.

- 1. Launch of full complement of CICs and CIC Network: The launch of the Vietnam and Ghana Climate Innovation Centers during FY16 achieved a key operational goal for the year, opening the way for robust and systematic data analysis of business incubation efforts, sharing of experiences and opportunities across the network, an increased portfolio of companies receiving support, and expansion of the program to three continents. The CIC Network came into operation in FY15 and undertook operations aligned with its stated mission of linking the CICs through shared experience and best practices, creating partnerships with complementary organizations, and providing common services to all CICs. At the same time, the five already operational CICs continued to provide services to a growing portfolio of companies.
- 2. Multiple approaches to enhancing CIC capacity: The CIC Network is an important conduit to strengthen CIC capacity. In March 2016, the Network organized and hosted a weeklong meeting and training session of CIC CEOs and management staff at World Bank Group headquarters in Washington. The gathering offered rich opportunities for CIC managers to interact with leading experts in clean-tech, business incubation, and cutting-edge energy-efficient products and services. Following the meeting, the Network initiated targeted capacity building efforts that led to partnership agreements between CICs and select developed-country clean technology incubators to provide tailored training and advisory services. The Impact team engaged in extensive consultation and capacity building with CIC staff toward finalization of a results framework for all but one of the seven CICs, with the last now in process. (A more in-depth description of steps to strengthen CIC capacity and effectiveness is found in the next chapter.)
- 3. Designing more effective approaches and capturing lessons: The systematic packaging and dissemination of lessons from CIC operations and the development of new models was increased in FY16. The CIC Network has developed a handbook with guidelines on CIC operations for technical teams. The Launchpad business line expanded into numerous countries to assess the climate innovation ecosystem and design CICs around new models to best serve local needs. Sixteen countries have gone through CIC scoping and four are in advanced CIC development, providing a wide range of global analysis to be tapped. The Market Connect business line launched a pilot in South Africa on how to connect green entrepreneurs to global resources, while Finance Lab innovated novel investment models. All CTP learning is gathered and channeled through the scaled-up Insight business line. In addition to launching original research, Insight regularly produces knowledge products derived directly from the CTP's experiences.
- 4. Crowding-in global sources of finance on several fronts: Innovative approaches to financing clean-tech ventures advanced in Kenya and South Africa in FY16, providing learning and experience that will enhance the development of a parallel financing effort in Ghana. The Kenya Climate Venture Facility (KCVF) is focusing on clean-tech ventures with commercial and high-growth potential operating in a growing market for clean-tech innovation. As KCVF is building a pioneering model for start-up and early-stage finance in Kenya, establishing KCVF's core management and oversight and setting up the investment company took up much of FY16, but by the end of the fiscal year the facility had begun investment activities. Globally, the Finance Lab business line tests novel financing mechanisms for such clean-tech investments. A pilot conducted in South Africa has been developed with the help of a consortium of development and investment partners. The pilot explored the applicability to clean-tech investing in developing countries of a variety of financing models, including angel investing, equity crowdfunding, online lending, and de-risking facilities. In all cases, CTP aims to use novel financing instruments to crowd-in local and global sources of finance that would not otherwise invest in CTP country climate tech sectors.

5. A systemic approach to impact measurement: The Impact team conducted an extensive review of an updated results framework through a targeted revision exercise that produced a finalized CTP results framework. A significant advance in FY16 involved design and development of a standardized data collection process consisting of eight online forms to be used at different touch points between CICs, their partner service providers, and the client businesses. The forms were successfully rolled out in selected CICs in FY16 with plans in place for the others in FY17. The Impact team also produced a prototype of an online dashboard for conveying data generated by the revised collection process. The team revised and finalized the results framework for all of CTP components—Launchpad, Market Connect, the CIC Network, Finance Lab, Insight and Impact. All seven CICs will have finalized results frameworks, once the on-going work in South Africa is completed in FY17.

### HIGHLIGHTS OF STRATEGIC PRIORITIES FOR FY17

- 1. Increase impact by expanding linkages, connections and partnerships: With the continued interest and activity in climate innovation by and for developing countries, CTP can use its head start in this field to play an important convening role connecting and coordinating a range of diverse actors. The CIC Network will not only increase its support to existing CICs but also look at increasing its partnerships with other non-CIC organizations expanding into a global clean-tech platform. The Market Connect business line will continue to innovate new models to facilitate stakeholder connections as vehicles to connect CICs, the companies, and the markets they serve as well as the larger universe of intermediaries seeking regional and global connections.
- 2. Enhance CIC operational delivery: FY17 will be an important year for the recently launched Vietnam and Ghana CICs to deliver on results. VCIC's strong political alignment with a government-affiliated implementer requires some refinement of the classic CIC model. The Ghana CIC is encountering substantial demand for its services and now must rapidly build capacity to meet demand in a sustainable way. The Kenya CIC is now moving into its next phase with substantial new funding as well as the launch of the Kenya Climate Venture facility to provide a nodal investment offering. The Ethiopia CIC continues to build capacity in a challenging market. CICs in the Caribbean, Morocco and South Africa all continue their growth with expanded funding and revised, improved strategies to better serve local climate technology start-ups.
- 3. Broaden access to innovative financing options: The launch of the Kenya Climate Venture Facility (KCVF) in July 2016 marks a key step towards providing a novel financing option that specifically addresses the 'missing middle' of available financing that impedes innovation and scaling. The development of the parallel Ghana Climate Venture Facility (GCVF) will draw lessons from Kenya and be tailored for the Ghanaian market. At the same time, CTP continues to explore and pilot alternative models to address the problem of appropriate financing through a range of pilot projects in investment readiness and facilitation, platform financing and investor aggregation. Lessons will be documented through each stage of the pilots, leading to a lessons-learned report to inform development of other early-stage climate finance models.
- 4. Advance design of the next generation of CICs: In FY17, the four Launchpad teams selected from the first cohort will complete business plans for new CICs in Egypt, Malawi, Nigeria, and Tanzania by the end of the first quarter of the fiscal year and will begin raising funds. The business plans are to include the background and context of the proposed program, an analysis of market needs and opportunities, alternative CIC concepts, an operational plan, financial projects, and a results framework. At least three out of four of the business plans are expected to be selected for the Pre-Launch Stage on the basis of a strong demand-driven business plan and funding commitments. The second cohort of Launchpad teams will develop at least six Exploration Reports that will outline ideas selected on a competitive basis.

5. Scale up the reach and depth of Insight: The Insight component of CTP will broaden and scale its activities in FY17, and systematically produce knowledge products based on CTP experiences. While the CTP has already published analysis exploring new opportunities for climate innovation and disseminated lessons from CTP projects, two factors are now driving the scale-up of this work. The first is the maturity of the program, which provides Insight with a critical mass of experience that strengthens the lessons it can draw from concrete country-based projects across a range of geographies and sectors. The second is the renewed global push on climate change, including a particular focus on innovating new solutions driven by the private sector, an approach that aligns closely with CTP strategy and actions. CTP can take advantage of its position to develop links with internal partners, including the Climate Change Group, IFC, as well as sector-specific practices such as Energy and Water. In addition, Insight will strengthen and expand existing relationships with the many external partners interested in lessons learned from the CTP.

# **Chapter 2: Strategic Highlights**

# A CHANGING CONTEXT ON CLIMATE CHANGE AND INNOVATION

Since the launch of the first CIC in Kenya in September 2012, the context in which CTP operates has changed significantly. A number of developments have increased the urgency of climate action in general, and heightened the prominence of innovation for less costly climate solutions more readily incorporated into existing systems in particular. The most important of these developments include:

- **Paris Agreement at COP21**—The Paris Agreement at COP21 provides a comprehensive global agreement that clears a pathway to international agreement for coordinated action to address climate change. The agreement itself, as well as the renewed political will it represents and will further engender, are driving much greater urgency and action on climate across the globe.
- Mission Innovation and Breakthrough Energy Coalition—Two related efforts announced at COP21 stand to further drive the innovation of new climate solutions. More than 20 countries agreed to double their spending on clean energy research and development in the coming five years to reach a total annual expenditure of \$30 billion by 2021. The Breakthrough Energy Coalition consists of a group of more than 20 billionaires led by Bill Gates that pledged substantial financial resources to invest in up to 100 private companies developing disruptive clean technology solutions in the coming decade. The CTP program is uniquely positioned to inform these initiatives, especially in developing countries, and will aim to forge cooperation with key participants in 2017.
- **Technology Advancements**—Increasing private and public sector attention and spending on development of clean technologies is yielding a number of advances. Prominent among these is the improvement of solar photovoltaic (PV) technology, where prices of PV cells have fallen by more than half over the last three to five years. Other technology sectors have also seen marked improvements, and while technology development is always difficult to predict, further increases in clean technology research and commercialization efforts are expected to accelerate the pace of change in the coming years.

These developments clearly demonstrate reinvigorated climate action and innovation, and a continued focus on developing countries, all of which enhances the strategic relevance of the CTP. The heightened level of activity is creating opportunities but has also left gaps to be filled—gaps which CTP was designed to address. Figure 1 below shows the initial positioning of CTP along the innovation chain on the x-axis and stage of country development along the y-axis. The particular gap filled by CTP is to bridge the gap between basic scientific and fully commercial products and businesses with climate solutions for developing country markets.



### Figure 1: CTP's Position in Developing Country Climate Innovation

While the renewed push in climate change innovation outlined in Figure 1 addresses important components in the innovation process for new climate technology, none of it addresses the gap identified and filled by CTP. There are no major initiatives that focus specifically on supporting developing countries in taking a more pro-active approach to commercialization of climate-friendly business models.

The increase in basic research embodied in Mission Innovation will increase proven scientific concepts emerging from research labs. The substantial increase in funding for climate-friendly development embodied by the Green Climate Fund creates a need for technologically and commercially viable investments. These developments validate the need for CTP activities which can bridge this gap in the innovation endeavor and create a pipeline of investment technologies and projects.

CTP thus addresses the absence of major initiatives targeting climate innovation in developing countries. There are a handful of smaller efforts in this area including, for example, the New Energy Nexus and Cleantech Open. These initiatives, which are earlier-stage and more virtual than the CTP, may present opportunities for partnerships and synergies.

# THE POWER OF A GLOBAL APPROACH

While much of the CTP's work through the CICs is country-focused, with a clear mandate to serve the entrepreneurs and larger ecosystem of the host country, the program was conceived and implemented on a global scale. Figure 2 below shows the current scope of CTP activities around the world.

### Figure 2: The Global CIC Network



The program's global scope confers a number of benefits in terms of overall impact as well as to the effectiveness of CTP's country-based projects.

**Connecting companies and markets:** The development of new technologies, business models, and growing companies are not bound by national borders. The start-ups supported by the CTP tend to be small and locally focused. The connection that the CIC Network provides to these companies as well as to the CICs themselves helps to bring global resources and advantages that would not otherwise be available.

**Exchanging experience and lessons:** As a global program with multiple projects across numerous countries, the CTP is able to transfer lessons learned in one environment to another setting where they can be applied to increase a project's effectiveness. This is seen most readily in sharing lessons on CIC design and operations, and also includes design of novel seed financing models.

**Global analytical perspective:** CTP's analytical work benefits significantly from the program's global footprint. With activities in more than a dozen countries, the program is able to have a global overview to discern emerging trends, as well as knowledge from concrete projects at the local level.

**Economies of scale:** A larger program with a range of operations in multiple countries brings substantial economies of scale that benefit all projects. The operation of a single CIC in one country would have undue administrative and other costs that undermine its viability. By sharing common costs at the program level, individual country-based projects can devote more time and resources to achieving their specific objectives.

# LEVERAGING RESOURCES

CTP relies on support from development partners<sup>1</sup> to fund a sizable portions of its activities. Without the initial contribution from the United Kingdom of approximately \$800,000, as well as the continued support of all donors, the CTP would not be viable.

The program has been able to augment the contributions from the five major donors from a number of different sources. This allows leveraging of donor contributions to enhance program impact. It is also a way to forge partnerships with organization that share the goals of CTP but may not be appropriate for conventional World Bank funding channels.

The ability to leverage the funding of development partners from such a variety of sources speaks to the widespread appeal of CTP strategic objectives. It also speaks to the CTP's position operating as a nexus for a variety of different actors in this space, including government, private sector and multilaterals. Additional funding has come from a range of sources:

**Host governments**—In certain countries, the host governments of CICs contribute funding to ensure the center is properly developed, launched, and operated.

World Bank Group—The team has been able to tap the Bank Group's own funding to support several projects.

**Other Trust Funds (TFs)**—In many instances CTP has secured funding from other TFs housed in and administered by the World Bank.

**Development Partners**—While DANIDA is a CTP donor, its recent contribution to the Kenya Climate Innovation Center (KCIC) was made directly to KCIC and not through the CTP trust fund.

**Financing for CTP-supported companies**—Companies supported by the CTP have been able to raise money from a variety of public and private sources.

<sup>1</sup> Current CTP donors are the governments of the United Kingdom, Denmark, Australia, Norway and the Netherlands.

Table 1 below breaks down the additional funding by project.

### Table 1: CIC Funding by Project

Project	Amount in USD	Source of funding leveraged	Contributions towards
Vietnam CIC	\$380,000	Host Government of Vietnam	Office space rental, NATEC Gov. official staff time to work on VCIC
Vietnam CIC	\$150,000	infoDev's CSBKE trust fund	Development of the VCIC business plan
Caribbean CIC	\$1,500,000	World Bank Development Grant Facility	Funding the establishment of CCIC and its initial operations
Caribbean CIC	\$1,500,000	Infodev's EPIC Trust Fund	Funding current operations of CCIC
Caribbean CIC	\$400,000	Infodev's EPIC Trust Fund	Funding development of CCIC business plan
			Supervision costs
Morocco CIC	\$1,500,000	World Bank Development Grant Facility	Funding the establishment of MCIC and its initial operations
Morocco CIC	\$150,000	Norwegian TF for Private Sector and Infrastructure	Design and drafting of MCIC business plan
Morocco CIC	\$1,000,000	IFC Trust Fund	To build the capacity of MCIC staff
Morocco CIC	\$200,000	GIZ	Various programs and staff support
Morocco CIC	\$180,000	Moroccan Agency for Solar Energy (MASEN)	Funding and in-kind support for staffing and administrative costs
Morocco CIC	\$300,000	Moroccan Ministry of Industry	Program support (over three years).
Kenya CIC	\$1,300,000	World Bank Development Grant Facility	Strengthen regional linkages
Kenya CIC	\$10,500,000	Danida	Funding phase 2 of KCIC operations
Ethiopia CIC	\$100,000	IFC Business Edge program	Provide entrepreneurial training to local entrepreneurs
South Africa CIC	\$1,520,000	Host Government of South Africa	Fund SACIC design, development, and operations
Malawi future CIC	\$15,000	World Bank	CIC business plan development
Tanzania future CIC	\$80,000	World Bank	CIC business plan development
Nigeria future CIC	\$64,000	World Bank and IFC	CIC business plan development

CTP will increase its leveraging of donor funds that contribute to the trust fund. This will take place primarily through funding of the new CICs being developed under the Launchpad business line. While development of the new CICs is being primarily funded through the TF, the funding required for their full operation will be secured from other sources. The most advanced CICs under development are already active in this fund-raising process.

# CHARACTERISTICS OF THE CTP COMPANY PORTFOLIO

The strategic and operational basis for the CTP is to provide support to the private sector in developing countries which will in turn innovate and commercialize commercial products for developing country markets that address local climate challenges. With the first full generation of seven CICs now launched—albeit at different stages of development—the portfolio of companies being supported by the CTP is growing.

One of the key activities of CTP in FY16 was to work toward a thorough understanding of the companies supported by the CTP. As part of the Impact business line, CTP works with the CICs to collect data from the companies being served. This data collection includes, but is not limited to, information on company sector, size, stage of development, financing position, and business model. A first analysis of three more advanced CICs—Kenya, Ethiopia and the Caribbean—has been completed with the other CICs to follow.

As a quick snapshot, Figure 3 below shows that the CIC portfolio currently includes 312 businesses across all 7 operational CICs.

### Figure 3: CIC-Incubated Businesses



### **312 Businesses Supported By CICs**

Those businesses represent an array of climate technology sectors, with 75 percent mainly concentrated in renewable energy,<sup>2</sup> and 20 percent in food and beverage, agriculture, water, and solid waste, as shown in Figure 4.

2 Biofuel and biodiesel; bio-digester; solar lantern; pellets; power generator uses, both solar and heat energy; briquettes; cook stoves; microgasifiers; solar panels; solar energy; solar farm; solar food dryer; solar-powered pumps; hydroelectric power; solar kits; solar thermal electricity plant; wind power; solar home system; solar pump; solar heater; solar lighting; wind turbines; solar drier; building integrated photovoltaics; solar mobile chargers; Bio Ethanol.

### Figure 4: CIC-Incubated Businesses, by Sector



Supported Businesses by Sector

The process to expand the data collection and analysis of companies in the CTP portfolio is explained in more details in the Annex.

### STEPS TO INCREASE CIC OPERATIONAL EFFECTIVENESS

A number of measures have been put in place to strengthen the efficiency and effectiveness of CTP services provided to support private-sector innovation on new climate technologies and business models, both through the CICs and other channels.

#### Accelerate the delivery of CIC programs and increase the impact of CIC services

### **CIC Network**

While expanding into a global platform, the CIC Network will continue to support the CICs in promoting operational efficiency in areas identified in the Network analysis as challenging at the local. In particular, the Network will support promoting CIC governance, business and technical mentorship, operational models, sustainability strategy, and connectivity-ecosystem building. A number of CICs have encountered difficulties in recruiting talent for CIC management positions and providing leadership training. The CIC Network will aim to address the issues at a global level through guidelines on CIC management position requirements and by identifying former CEO and incubation experts to work with CIC management and targeted training provision. The Network will aim to examine models for global mentorship and fellowship programs in cooperation with other partners, such as diaspora networks, since the CICs are finding it challenging to find experts in local markets. There is also a variation in CIC operating models, and the Network will develop for CIC teams a template of pros and cons across all areas of CIC operations based on international good practices. CICs also sought advice on sustainability and connectivity, so the Network will develop a strategic study and guidelines based on experience of other countries but adapted to CIC context.

### The next generation of CICs

The CICs developed under Launchpad will incorporate lessons learned from the first generation of CICs. Operations of the current generation of CICs exposed gaps in local capacity for providing support to clean-tech small and medium enterprises (for example, the ability to screen SMEs). They also revealed market gaps that fall outside the CIC mandate or capabilities in the climate tech ecosystem (for example, channels for uncovering consumer insights), and they brought out opportunities to capitalize on the World Bank Group's strategic assets more effectively (for example, engagement channels with the government). Launchpad CIC teams benefit from both the written and tacit lessons learned from existing CIC teams. Moreover, Launchpad CIC business plans are being developed by World Bank Group regional teams that are fully integrating them into Bank Group work programs. This means they have the opportunity to capitalize on the backing of country management teams in securing approval for the CICs through the government, and they are better positioned to take advantage of Bank Group financing sources. Finally, Launchpad CICs are developed using a design-thinking methodology, meaning that context-specific hypotheses are systematically validated before being incorporated into business plans.

### **Complementary ecosystem support models**

CTP will broaden its role to addressing critical ecosystem gaps that lie outside the CIC's existing mission and capacity but which are critically hampering client growth opportunities. Intermediary institutions that support innovation and entrepreneurship typically excel by building their competitive advantage along carefully selected market segments (for example, early stage ventures) and market barriers (for example, firm capabilities). There are very few successful global examples of intermediary institutions that play a role across all facets of the innovation ecosystem. For these reasons, CICs have developed a finite set of instruments to support the climate technology innovation ecosystem (for example, proof of concept grants). Among the examples of market barriers beyond the CIC mission profile that pose critical bottlenecks to CIC clients, off-grid energy providers who aim to expand their market base to vast, sparsely populated and poverty-intensive areas are faced with building expensive value chains that make their business models unprofitable. In countries such as Indonesia, innovation intermediaries specialize on base-of-the-pyramid value chains. But the difficulty of the challenge makes this their entire mission. In recognition of the problem, CTP will engage intermediary organizations that play a complementary role to the CICs in the green technology ecosystem and tackle critical barriers faced by CIC clients. Intermediaries might include financing organizations, consumer insights organizations, technology brokers, and market intelligence organizations.

#### Increase the impact of CTP's global business lines

### **CIC Network**

The CIC Network will be able to enrich its lessons learned on the effectiveness of different support
models and accelerate exchange of best practices by broadening its membership base to a larger
group of global partners. Over the last year, CICs have greatly benefited from exchanges with the U.S.
Incubatenergy Network of best U.S. clean-tech partners, and from the New Energy Nexus events in
Manilla, and new cooperation with international research and development organizations in Europe.
Interactions with more advanced partners outside the Network promote sharing of latest operational
and technological trends and help CICs become part of the global clean-tech innovation eco-system.
CTP is uniquely positioned to develop a global platform centered on the CICs and business incubation
for developing countries, providing members with links to investors, academia, technical experts and
other incubator partners globally. The platform will further enhance promotion of clean-tech innovation
ventures in developing countries and promote access to global markets.

### **Market Connect and Finance Lab**

- Market Connect will be able to attract a larger and stronger pool of global investors by offering a broader portfolio of investable climate tech firms than is currently comprised within the CIC client portfolio. Market Connect is currently building a global network of investors for CIC companies. These are early stage or seed stage investors whose investment strategies involves screening a large number of companies, investing in a portfolio of companies, and expecting that only one or two will be very successful and justify the risk they take in their investments. Currently, there are too few companies among CIC clients to attract global investors who depend on a large pipeline of deals as a starting point. In order to make a global investor network viable, Market Connect will expand its portfolio of companies by partnering with intermediary institutions that have portfolios of investable companies outside of CICs.
- Market Connect will reach better economies of scale and quicker impact by supporting firms that are inside the CIC portfolios as well as those that are in other intermediaries' portfolios. Across CICs there is a number of global caliber firms that are ready to benefit from more targeted technical support, exposure to international markets and to other firms of the same caliber. However, building a project pipeline of global caliber firms has proven to be a challenges in the CIC Network due to the small number of CICs. The CIC Network will join forces with other green entrepreneur intermediaries in order to to provide this specialized support to a limited set of high-impact firms through a global level competition and market linkage activities.
- Market Connect and Finance Lab will be able to more effectively deploy novel support models by leveraging the capabilities and investments of intermediaries that play complementary roles to the CICs in local green entrepreneurship ecosystems. As discussed above, in some CTP countries there are intermediaries who have strong competitive advantages over CICs to engage in activities related to Market Connect and Finance Lab. This is because CICs' missions and capabilities are designed around their own market niches. Both Market Connect and Finance Lab will deploy pilots to solve challenges that remain persistent in climate technology ecosystems, namely cross-border market connections and access to finance by partnering with both CICs and complementary intermediaries.

### Impact

Impact will continue its comprehensive effort toward the design, development, and implementation of
a systematically robust monitoring system for CIC activities and supported businesses. The monitoring
system aims to provide a better understanding of the CIC operational model, the progress of its
businesses, as well as insights into strategic decision making at network and CIC levels. The intended
goal is to have a pipeline of investment ready businesses that would be able to raise additional local,
regional and global investments.

### Insight

Insight will capture lessons from the CTP and elsewhere to inform efforts supporting successful climate innovation by and for developing countries. This includes capturing lessons from the CIC experience and packaging them in published briefs and handbooks. Original research launched in FY16 is determining the latest business models for climate technology innovations that can be commercialized by developing country companies. New work planned for FY17 will review the many efforts to support ecosystems for climate innovation and competitiveness at the national levels and produce a set of models and tools that CICs, country governments and others can use to help their own industry more effectively commercialize new climate products for economic and environmental gain.

Figure 5 provides a schematic view of the challenges that CTP is expected to face if it restricts its partnership to the existing CICs. Figure Y provides a vision of CTP operating as a platform for a broader range of national climate technology intermediary partners both in the same countries as CICs as well as in other countries. A broader range of intermediaries leads to economies of scale to attract global investors and resources from other global partners to support CTP's mandate and accelerate the firm-level impact of CTP.



#### Figure 5: Expected challenges in a restricted network of CICs

Figure 6: Opportunities for economies of scale in a broader network of CTP partners to be built in FY17



# **Chapter 3: Climate Innovation Centers**

### **CIC NETWORK**

### **OVERVIEW OF PROGRESS**

The CIC Network launched fully in FY16 and began operations aligned with its mission of linking the CICs, sharing experience and best practices, and designing a set of projects that drive local climate innovation while building CIC linkages with other players of the clean-tech ecosystem, including incubators, investors and partners and connecting them into a global clean-tech innovation platform. First-year activities focused on three baseline priorities: connecting CICs and analyzing and discussing their strengths, challenges, and potential areas where the network could provide support; supporting the launch of a full set of CICs and promoting sharing best practices and lessons learned; and forging strategic partnerships to build a global network of mentors, trainers, technical experts, and business partners.

By the end of the first quarter of FY16, a comprehensive assessment of all seven CICs was carried out to analyze their operating models, review their experiences with early stages of development, and examine their positioning in clean-tech markets locally and globally. Based on this assessment, the strengths and opportunities for the CIC network were identified in the following areas:

- 1. **Connectivity:** promote interactions and linkages by developing CIC Network platform, organizing regular calls, preparing blog posts and a newsletter, and organizing annual meetings and other events.
- 2. **Operations and Standards:** develop guidelines and lessons learned on CIC processes, analysis of CIC incubation model, and other studies on clean tech for use by CIC and World Bank Group staff.
- 3. **Training and Technical Expertise:** build technical board of mentors, experts, and diaspora linkages as a foundation for development of CIC curricula and training, and to provide content for online learning.
- 4. **Partnerships**: forge strategic partnerships with clean-tech stakeholders globally, in developed and developing countries and at international organizations.

### **KEY ACCOMPLISHMENTS**

**CIC Network annual meetings:** Following an inaugural meeting in South Africa in March 2015, the CIC Network hosted a weeklong gathering of CIC CEOs and managers in Washington, DC, in March 2016, in the first annual meeting of the CIC Network. The agenda included program reports, off-site events, panel discussions, and intensive training on clean-tech incubation. The meeting brought together CIC CEOs and management teams, World Bank Group teams from headquarters and country offices, and an array of business incubation and climate technology experts. These included representatives of the U.S Department of Energy, the incubation center 1776, and Incubatenergy Network, a group of U.S.-based clean-tech incubators. More than 20 staff from the seven CICs and over 40 Bank Group and clean-tech partners participated in a high level clean-tech session and workshops, sharing experiences and best practices from Silicon Valley to Sub-Saharan Africa. CICs exchanged notes on how they recruit and support their client companies, shared ideas on management systems and challenges, and planned future collaboration on various endeavors. The meeting functioned as a kind of bonding exercise, helping to forge a strong coalition of CIC participants dedicated to identifying and supporting clean-tech ventures with innovative solutions for their local markets.



Partnership with ARPA-E Innovation Summit and US IncubateEnergy Annual Meetings: In conjunction with the annual meeting, the CIC Network partnered with the ARPA-E Innovation Summit and U.S. Department of Energy incubator program. Managers of top U.S. clean-tech incubators—Greentown Labs, Hawaii Energy Excelerator, IC2 Institute, and LA Cleantech Incubator and 1776—shared best practices on incubation management with CICs. At the ARPA-E Innovation Summit, CIC CEOs and staff members met with industry leaders and luminaries to discuss on the

future of energy technology and toured the showcase of 250 cutting-edge U.S. clean technology innovators. The CIC Network continued discussions with ARPA-e on how to promote exchange of technologies and collaboration between U.S. researchers and CIC enterprises. There was a strong interest in better describing and understanding the business models to deploy technologies in developing countries and it was agreed that CTP Insight product line would follow up on this research request in cooperation with CICs.

Tailored training and capacity building by selected US clean-tech partners: Building on the CIC annual meeting, the CIC Network initiated targeted capacity building efforts resulting in formal partnership agreements between CICs and select U.S. clean technology incubators for tailored training and advisory services. Topics of training range from how to design well-functioning incubation facilities and foster a local entrepreneurship ecosystem to developing a robust curriculum and training program for incubator participants. An action plan has been developed for each CIC and will be reflected in the future CIC Network activities. The capacity building efforts helped the CIC teams restructure their operational model from one based on proof-of-concept (PoC) competitions to a more targeted model consisting of ideation sessions, bootcamps, and accelerators. The efforts also helped SACIC develop a new business incubation strategy, and assisted VCIC in modifying its space layout and its practices based on international best practices.

**1776 Challenge Cup national and regional competitions:** The CIC Network partnered with 1776 to organize participation by incubator entrepreneurs in Challenge Cup competitions—at the national level in Morocco and South Africa, and an Africa-wide competition in Kenya. The cooperation with 1776 included intensive training to Africa CIC teams on how to organize start-up pitching events, on incubation in government-dominated sectors such as energy and regulatory hacking. The events brought together hundreds of innovation partners and companies. The three companies trained and selected by the Morocco CIC benefited from extensive MCIC training and won the Africa regional finals in Kenya, qualifying them to compete in the world finals in Washington, DC in June 2016 which opened new opportunities for investment and access to global markets.

**CIC Network Platform and Handbook:** CIC Network piloted an online platform and handbook tool to promote connectivity and sharing of lessons. The tool will be also useful for Launchpad teams developing new CICs.

**Global partnerships and diaspora linkages:** The CIC Network promoted cooperation with WIPO Technology Matchmaking program in the Ethiopia and Kenya CICs and with the UN Climate Technology Centre & Network (CTCN). The ECIC and KCIC organized a technology matchmaking event for WIPO to promote knowledge of latest available technologies among local entrepreneurs. The CIC Network also took part in the Africa Diaspora Dialogue Summit in Washington, DC and agreed to further cooperate with the diaspora team to explore potential for a diaspora mentorship program to recruit talent to advise CIC enterprises. To promote global connectivity, the CIC Network organized strategic meetings and workshop on cleantech innovation with DFID in London, and joined the World Bank Group's



Dialogue for Climate event in Vienna in May 2016 and joined the ADB-CalTech clean-tech workshop in Manilla, Philippines, in June 2016 to promote global linkages. The Manilla New Energy Nexus meeting was also joined by newly launched VCIC to meet their regional partners.

### **KEY LESSONS LEARNED**

- Value Added: Global Clean-tech Innovation Platform: CIC Network is the first innovation network focusing on climatetech solutions in developing countries. The annual meetings confirmed strong interest in linkages across the network among CICs, and interest in forging partnerships with other climatetech players to open a path to financing and global markets through a global platform.
- Climate-tech market opportunities and business linkages: CICs are often the first local climate-tech actors in developing economies, giving them a strong policy advocacy role. Through their activities CICs develop expertise in business models to access markets. The network supports CI Cs in developing policy advocacy and increasing the quality of go-to-market mentoring and technology demonstration skills.



- Effective partnerships and partnership strategy: The clean-tech sector is fast-developing and a number
  of players have entered the field. It is important for the CIC Network to agree on a strategy for effective
  partnerships.
- **Connectivity across globe:** Connecting players across globe can be challenging due to variations in technology, equipment, information sharing, and access. The CIC Network piloted a program using the World Bank's Collaboration for Development (C4D) platform. But most CICs found it challenging and too complex to access the site. A single-purpose platform would be preferable.

### **FY17 WORK PLAN**

The vision for the CIC Network for FY17 is to evolve into a global climate innovation platform focused on cleantech innovation in developing markets. This entails strengthening the knowledge base on suitable clean-tech incubation operational and business market models for developing countries and organizing training for CICs and other developing country incubators and entrepreneurs.

To build a global climate innovation platform, the team will develop a strategic study of available network models and mapping of all potential partners. This will be used to decide on the Network membership criteria. The analysis will cover strategies and activities undertaken jointly with CICs and other strategic partners, including communications, public relations, and sustainability. The team will also analyze suitable online models supporting global innovation and other networks. As part of global Network efforts, the team is planning to launch a CIC Network global clean-tech innovation competition during the UNFCCC COP22 in Morocco in November 2016. The competition will leverage CIC services to organize ideation sessions, boot camps, and accelerators across the CIC Network to highlight and select clean-tech entrepreneurial talent in developing countries. The finals, which would be organized during the next COP, would connect the selected entrepreneurs to global investors. The competition would be organized with a number of strategic partners.

The CIC Network will also continue activities across its four core areas of operations and standards; technical expertise; training; and connectivity and partnerships to provide support to CICs in those areas where they requested Network support and where challenges were identified during the FY16 Network analysis. On operations and standards, the Network will further refine guidelines on good practices and lessons learned on CIC processes. The areas in which support was requested and needed include CEO requirements, recruitment

process and training, CIC Incubation model analysis, guidelines on how to build eco-systems, guidelines on market advisory, analysis of suitable clean-tech incubation spaces, communication strategy, gender strategy building on the example of successfully efforts by ECIC; and CIC sustainability strategy.

The team will continue to build a global pool of experts and mentors on technologies and business development available to work with CICs. The team will prepare a strategic note exploring existing fellowship, mentorships, incubation, training, and business diaspora programs to identify, develop, and implement viable options for the CIC Network. The team will consider establishing a technical board of experts for the global platform to constitute a brain trust for the global platform. Capacity building activities started at the CIC level in FY16 will continue in FY17.

To ensure continued connectivity and partnerships, the team will continue network building activities which will encompass regular calls and newsletter, and organizing annual meeting and other events. For the annual meeting, the government of Israel has expressed interest in co-organizing an event to share its model and has offered to organize a week-long training on technologies and business development models.

Key Milestone	EXPECTED DATE
Building CIC Network into a global clean-tech Innovation Platform - Develop strategies for the global innovation platform and its IT solution	
<ul> <li>Develop promotional material for the platform</li> <li>Consult with CICs and partners on the platform launch</li> </ul>	Q1 FY17 Q1-Q4 FY17
<ul> <li>Announce the platform at COP 22 along with a global CIC Network event</li> <li>Implement network platform</li> </ul>	Q2 FY17 Q3-4 FY17
Develop CIC Guidelines and operational good practices	Q2-Q4 FY17
Organize CIC Network competition at the COP22	Q2-Q3 FY17
Organize CIC Network annual meeting	Q4 FY17
Technological expertise and mentorship scoping study	Q1-2 FY17
Continue capacity building and training	Q1-4 FY17



### CIC Network Joins Jim Kim at ARPA-E Innovation Summit

As part of its annual meeting agenda, members of the CIC Network joined World Bank Group President Jim Yong Kim at the **ARPA-E Innovation Summit**, organized in cooperation with the U.S. Department of Energy. The CIC Network was presented at a panel, and CIC representatives had the opportunity to meet with cutting-edge clean technology showcase partners, participate in discussion sessions, and network with summit participants and presenters.

President Kim addressed the gathering, explaining that climate change poses a significant threat to the Bank's ability to achieve its Twin Goals of eliminating

extreme poverty and boosting shared prosperity. He added that the developing world, where populations are younger and the middle class is growing, will be the engine of global economic growth and must play a key role in responding to the climate change challenge. The World Bank has committed up to \$20 billion annually, and is putting together a SWAT team for helping governments implement systems and processes that help bring down the generally high cost of renewable project development.

With World Bank Group estimates showing that \$6.4 trillion will be invested in the clean-tech sector in developing countries over the next decade, the Climate Innovation Centers and the CIC Network are well positioned to help integrate innovation spaces around locally-relevant technology requirements.

# CIC PROGRESS REPORTS and WORK PLANS Caribbean CIC

### **OVERVIEW OF PROGRESS**

In FY16 the Caribbean CIC (CCIC), working with the CIC Network, reorganized and repositioned its business model to attract additional funding and move along a path toward long-term sustainability. The CIC Network conducted a benchmarking exercise of the Center's operations and services in September 2015, outlining areas for further strengthening the Center's business and operating model. The benchmarking effort includes provision of additional support to CCIC to build its staff capacity and ensure it has in place the right staff complement to implement the new model. The CCIC Management Committee endorsed the recommendations that resulted from the exercise at a leadership workshop held in Washington the following month.

The new business model focuses on the Center's sustainability and on the ways to best operate on a regional scale. It emphasizes support for nascent as well as more mature entrepreneurs by providing an integrated framework that supports entrepreneurs in a structured pathway from idea generation to product commercialization and scalability. This is achieved by strengthening the linkages between the CCIC and the other components infoDev's Entrepreneurship Program for Innovation in the Caribbean (EPIC), particularly business incubation hubs across the 11 CARICOM countries. Under partnerships between CCIC and the hubs, entered into in FY15, the hubs provide services to local entrepreneurs on behalf of CCIC. Advantages of the revised business model are: (i) development of a standard curriculum to be used by the CCIC and hubs; (ii) support for a larger number of entrepreneurs across the region; and (iii) long-term sustainability achieved by positioning the CCIC to attract additional funding and continue to support entrepreneurs beyond the Nov. 30, 2017, end date of World Bank Group support.

Under the revised business model, CCIC has already started to offer new services. These include: (i) ideasgeneration workshops (IGS); (ii) boot camps focused on equipping entrepreneurs with skills necessary to develop and improve their concept and create a clear road map for execution; and (iii) Accelerator programs involving intensive mentoring, networking, and customization services. Boot camp graduates are encouraged to apply for a position in the Accelerator, but regardless of their success in proceeding to the next round, all boot camp graduates will have access to a full suite of services. The workshops and boot camps launched in Jamaica in February 2016 followed by Trinidad and Tobago in April and May 2016. The plan, beginning in FY17, is to expand these services across the region, leveraging the existing CCIC hubs.

In an indication of the demand for the new model, over 75 participants attended the Jamaica boot camp and about 45 the one in Trinidad and Tobago. In both instances the top three teams received grant funding to further perfect their business model. The winning teams in both countries were also guaranteed access to the Accelerator program which was set to be launched by the end of June 2016.

The World Bank Group hired a marketing officer and an international business incubation specialist to provide technical support for the deployment of the new CCIC model and services, part of the larger effort to strengthen the internal capacity of CCIC. The Management Committee made the decision to replace the center's CEO, redefining the position to provide greater focus on program management and operations and program sustainability. The recruitment is underway and is expected to be filled by July 2016.

In FY16, the Center also invested time and efforts in forging strategic partnerships with other ecosystems players that will help strengthening the CCIC's brand positioning and longer-term sustainability. Several partnerships with key stakeholders are under discussion, including with the Branson Centre, Start-Up Jamaica, Clinton Foundation, and Inter-American Development Bank (IDB). In addition, leveraging the support received from the CIC Global Network, CCIC gained access to top energy experts from the clean-tech space, such as the Hawaii Energy Accelerator and organizations with operations in the Caribbean, including LACI and IC2.

### **KEY ACCOMPLISHMENTS**

- Repositioning of CCIC business model from proof-of-concept (PoC) grants to a more comprehensive and standardized approach which can be offered region-wide by the hubs with little customization cost involved. This model better positions the Center to serve a larger number of entrepreneurs at different stages.
- Incubation services to entrepreneurs have supported:
  - 11 startup ideas from Jamaica Bootcamp.
  - 14 startup ideas from Trinidad and Tobago boot camp, encompassing support for some 120 individual entrepreneurs through IGS and boot camp.
  - $\circ$  Supported some 180 participants in Jamaica through IGS and boot camp.
  - Brought some 35 new mentors or partners into the CCIC network.
- Two of the CCIC clients that received PoC grants have continued to grow their businesses and export their products to other markets within the region (Dominica) as well as internationally (the United States).
- Key partnerships with over 35 mentors and other ecosystem players, for example, Start-Up Jamaica, have been established.

### **KEY LESSONS LEARNED**

- Importance of having a standardized curriculum and set of activities that can be offered throughout the region by the Center and the hubs so as to minimize customization costs. This approach enable the Center to build its position and regional presence and support more entrepreneurs.
- Importance of having the right staff complement in place to implement the CCIC program. Changes in CCIC staff, including recruitment of a new program manager and the hiring additional specialists, reflected recognition of the importance of personnel to implementing the new model.
- Importance of having an engaged Management Committee that takes ownership of the Center's operations and supervises the performance of staff.
- The need for strengthening the capacity of the Center and the importance of exposure to best incubation practices. The participation to the CIC Global Network has enabled CCIC to learn from a broader ecosystem of clean-tech incubators. Also the support provided by the international incubation specialist greatly contributed to strengthening the capacity of the Center and its staff to implement the new business model.

### **FY17 WORK PLAN**

In FY17 CCIC will continue implementing the new business model established in FY16 and seek to extend activities, including IDS and boot camps, across the region by leveraging the network of CCIC hubs. The Hubs will receive training and support from CCIC on how to offer the standardized curriculum. CCIC will also continue implementing the Accelerator program and provide services to entrepreneurs both in the program and in the CCIC hubs. This will mark the first offering of the Accelerator program. Lessons learned from this will be incorporated for future offerings of the program.

The team has put forward a proposal for DFID's consideration to allocate funding to complement the activities currently being implemented by the Center and ensure that these are being replicated across all the other CARICOM countries. Under the existing budget, it will only be possible to replicate CCIC programs in a few selected countries. If received, the funds would go to strengthen CCIC's existing activities and expand CCIC's footprint in the region.

### **STRATEGIC PRIORITIES FOR FY17**

- 1. Finalize recruitment of the key CCIC staff positions, including program manager and incubation specialist, and train new staff so that they can effectively implement the program.
- 2. Build and expand strategic partnerships with other ecosystem players, continuing the effort commenced in FY16. These include local incubators such as Start-Up Jamaica and the Branson Center, complementary donor programs such as IDB's Compete Caribbean Program and the Caribbean Development Bank, which expressed interest in providing grant funding to CCIC clients. These partnerships will be further strengthened and solidified with memoranda of understanding. CCIC will also continue strengthening its network of regional mentors and trainers.
- 3. Build CCIC's capacity. Participation in the CIC Global Network will continue to provide CCIC with exposure to international best practices around clean and green tech incubation. CCIC will continue to benefit from the support of the senior international business incubation specialist to ensure the lessons learned from the Accelerator program are captured and absorbed, and that the Hubs receive the required training for implementing IDS and boot camps.
- 4. Develop CCIC's sustainability strategy. Working closely with the Accelerate Caribbean component of infoDev's EPIC program, CCIC will receive support for developing its longer term sustainability strategy.

Key Milestone	EXPECTED DATE
Complete recruitment of new CIC leadership team	Q1 FY17
Complete hiring and training of additional CCIC staff with appropriate skills complement	Q1 FY17
Expand Accelerator 2 program	Q3 FY17
Complete Accelerator 1 program	Q3 FY17
Implement additional IGS and boot camps across expanded network of hubs	Q3 FY17

#### Designed to Save Energy for Jamaican Fishermen, a Lamp Saves the Day in Dominica

In August of 2014, Robert Wright was receiving a proof-of-concept grant from the World Bank Group and incubation assistance from the Bank Group's Caribbean Climate Innovation Center (CCIC).

A year later, he was selling 400 units of his solar-powered lamp and phone charger devices to the Caribbean Community (CARICOM) secretariat to the Eastern Caribbean island nation of Dominica recover from the devastation caused by tropical storm Erika in August 2015.

Wright's New Leaf Power (NLP), a small enterprise making strides in renewable energy solutions, had been betting on the development of an inexpensive lamp that could bring light and phone battery-replenishing power to the fishermen of Jamaica's Pedro Banks. Before New Leaf could make its first delivery, the existing stock of the new device was being pressed into service for the Dominicans left in the dark by the storm.



Robert Wright demonstrates NLP's solar-powered lamp and phone charger developed with the help of CCIC.

"We received a phone call out of the blue from the CARICOM secretariat in Guyana," Wright recalled. "We supplied 300 lanterns, meeting the specifications that they be able to perform offgrid, using solar for emergency light and phone charging."

In addition to the solar power cell, the lantern-chargers have an auxiliary battery that can be powered by hand crank. Illumination is provided by an efficient LED light, and the lamps feature a USB port that allows users to charge cell phones and similar devices.

Wright credits the positive exposure NLP received from a World Bank-sponsored CCIC Award in 2014 with raising the company's profile and making it "a go-to company for providing emergency clean energy products in the event of a natural disaster in the region."

# Ethiopia CIC

Development State: Full Operations

### **OVERVIEW OF PROGRESS**

FY16 marked the second year of operations of the Ethiopia Climate Innovation Center (ECIC), a period of growth and improved operations. A number of successful awareness-building campaigns led to an increase in proof-of-concept (PoC) applications, attendance at events, and media mentions, among other promising early milestones.

As part of its commitment to building awareness, ECIC has become a focal point for discussion and dialogue on climate change and clean-technology entrepreneurship. The effort encompasses issuing marketing and clean-tech knowledge products, leading discussion forums, as well as sponsoring relevant events that have created fruitful dialogue among government, policy makers, academia, private sector actors, and other stakeholders.

The ECIC continued to provide holistic entrepreneurial support to its 72 small and medium enterprise (SME) clients and toward the end of the fiscal year expanded its client roster via a third PoC competition. The call for proposals drew 131 applicants, 33 of which were accepted as new client SMEs, bringing ECIC's roster to 105. Of the 33 new clients, 12 received PoC grants of up to \$43,000.

Fulfilling a goal set at the beginning of the fiscal year as part of the work plan, ECIC made significant progress toward its goal of ensuring a much stronger gender balance in its PoC applicants and supported clients. Through the implementation of its gender mainstreaming strategy, 26 percent of ECIC's client SMEs are female-run enterprises, well ahead of the center's target of 12%.

These gains occurred against a backdrop of staff capacity challenges at the center that slowed implementation of some planned activities. The incubation manager position remained open all year and the center is trying to replace two of its business advisors who departed during the year. Staff challenges in regional centers have posed delays in operations. The center plans to engage an external consultant to support the restructuring of ECIC staff and provide capacity building training and support through the first half of FY17.

### **KEY ACCOMPLISHMENTS**

- ECIC worked to develop revenue-generating activities in furtherance of its long-term goal of selfsustaining operations. The center won a \$100,000 contract from IFC to provide entrepreneurial training to local entrepreneurs using the IFC's training model, Excellence in Design for Greater Efficiencies (EDGE)
- The 26 percent of women-owned SMEs participating in the ECIC program as of May, 2016, far exceeded the program target of 12 percent.
- The number of female PoC competition applicants has increased from 9 percent during the first competition to 32 percent during the third PoC.
- Completion of the third PoC competition raised the total number of client SMEs to 105.

As a result of ECIC's financial and technical support, a number of client SMEs have been able to show significant progress in their businesses.

Gogle Energy Saving Stove and Engineering Cooperative Society PLC, for example, is an energy efficient cook stove and biomass charcoal producer. With ECIC support, Gogle has increased its production capacity by 60 percent.

During the second PoC competition, Ms. Kalkidan Seleshi, a young entrepreneur, came to ECIC with a plan focused on the production of mushroom spawns that would be sold to small-holder farmers who would grow mushrooms and sell them back to Ms. Seleshi for packaging and sale to grocery chains and other retailers around the country. The ECIC provided funding and technical assistance to help Ms. Kalkidan build a small facility with laboratory equipment to produce quality spawns. Today she runs an established, viable company that has created eight jobs and sold more than 3,180 jars of Mushroom spawns. Additionally, Kalkidan has provided technical training in the production of mushroom to low-income women in Addis Ababa.

Merin Mengesha, started Agribusiness Private Enterprise after winning the ECIC second Proof of Concept (POC2) competition. Realizing the significant market opportunity for cattle and poultry feed in Ethiopia, Merin decided to produce cattle and poultry feed from organic municipal waste. ECIC helped him obtain a patent for his product. His business has created job opportunity for eight workers, and produced and sold more than 26,640 kg of cattle feed and 40,800 kg of poultry feed.

### **KEY LESSONS LEARNED**

- A concerted strategy and offering for women entrepreneurs has been successful, and can serve as an example for other CICs.
- Strict regulatory constraints in the Ethiopian financial sector prevented the program from designing and implementing a suitable equity and / or debt program for ECIC SMEs. Based on a detailed analysis of the Ethiopian entrepreneurial and financial ecosystem, infoDev's access to finance team developed and proposed a roadmap for an alternative - a venture grant program that could be designed and managed similar to an investment vehicle.
- Recruiting a qualified incubation manager willing to be based in Ethiopia was not possible. It is critical to leverage the World Bank's position and to strengthen the program's links to government ministries, programs, and initiatives. Raising the importance of the clean-tech sector on the government's agenda is a potential avenue for raising awareness and demand for the services of the ECIC and its clients.

### **FY17 WORK PLAN**

ECIC has completed establishment and staffing of the center, building a cohort of clients, running several rounds of POC grant competitions, and rolling out its service offering. As the results indicators for Ethiopia demonstrate, apart from the performance gaps with the access-to-finance activities, the center has successfully launched and operated. ECIC is hence new institutional structure that has had some successes – in particular in supporting local manufacture of solar, and branding, it has a nascent but fruitful dialogue and relationship with government. ECIC however, has the chance to significantly improve its contribution to Ethiopia's green technology competitiveness by overcoming a number of challenges, including closing gaps in the delivery of private sector expertise, deepening the support it provides to its clients and addressing ecosystem gaps that are beyond the firm level. To achieve this, the ECIC will need to develop a new strategy, reduce its number clients and narrow its sectoral focus. One particular entrepreneurship-driven sector area that has shown particular promise in improving lives in East Africa has been off-grid energy, which will become the priority of the ECIC.

The program aims to push the ECIC to this next level through the following activities:

• Conduct a rapid mapping and diagnostics of the priority off-grid energy SME sector and of other sectors that the ECIC might include in its portfolio (e.g. forestry and agriculture). This activity will be conducted by the World Bank.

- Develop a revised strategy that adopts a sectoral approach, addresses market failures, and reflects learnings captured thus far and maximizes remaining resources towards achieving greater impact. The strategy will be developed through engagements with local and global stakeholders, and seek to create stronger links with other SME support programs. The World Bank will provide content, expert guidance and facilitation for the strategy's development.
- Postpone the access-to-finance component until there is a better understanding of how it could fit with the ECIC's new strategy.
- Develop an improved client selection process that adheres to the new strategy. This will be undertaken with technical support from the World Bank.
- Work with the Los Angeles Cleantech Incubator (LACI), one of the leading clean-tech incubators in the United States, through the end of calendar 2016. LACI will provide significant in-country support as well as remote assistance. This engagement has three objectives: (1) develop recommendations for improving service delivery to SME clients and build the capacity of ECIC staff to provide more in-depth advice to its clients; (2) recommend targeted (vs. generic) training and technical assistance to be delivered to entrepreneurs grouped by stage of development, (3) share business incubation global best practices based on LACI's experience.
- Identify a small group of high potential ECIC entrepreneurs to match with international mentors for enhanced advisory support and potential investment opportunities. ECIC aims to test this with a small group of entrepreneurs. This will be undertaken with technical support from the World Bank.
- In view of the results of the new strategy, consider opening a third regional center by the end of FY17.
   ECIC has signed a partnership MOU with the Adama University's School of Science and Technology, located about 60 miles from Addis Ababa. The intended partnership aims to jointly launch an outreach center within the university that can leverage all ECIC activities, further enhancing the reach of the ECIC.
- ECIC will place greater emphasis on developing partnerships with the local entrepreneurial and cleantech ecosystem players to capitalize on available synergies. This will include a more structured approach to the sharing of best practices and strengthened collaboration, including jointly sponsored training sessions, seminars, events, and forums with the intention of collaboration for greater impact.
- Introduce a learning component building on positive and negative experiences. This will be undertaken by the World Bank.

Key Milestone	Expected Date
Prepare new strategy	Q2 FY17
Implement enhanced services	Q2 FY17
Incorporate ECIC as legal entity	Q1 FY17
Conduct policy research and roundtable	Q3 FY17
If aligned with the new strategy, launch regional center No. 3	Q4 FY17
Lesson learned report	Q4 FY17

# Innovator's Helps Boost Women Participation in Ethiopia's Green Tech

In FY16, as part of its work plan for the fiscal year, ECIC took a number of steps to promote engagement and involvement of women entrepreneurs in the country's clean-tech movement. One element of this successful effort was the Women Innovator's Award (WIYA), organized to build awareness of opportunities for women entrepreneurs and encourage more women to join the growing clean-tech sector in Ethiopia.



WIYA 2015 was presented during Global Entrepreneurship Week at an event in Addis Ababa attended by a representative of the Norwegian Ministry of Foreign Affairs, the World Bank Group, contestants for the award, ECIC entrepreneurs, government ministries, and non-governmental organizations. The



event included speeches on climate change, entrepreneurship, and gender as well as award ceremony honoring four selectees chosen from among 25 semi-finalist women applicants. First place winner for the best climate technology business idea was Tarikayehu Gebreslassie, who has developed products from bamboo charcoal, including a bamboo vinegar solution for use as organic fertilizer, bamboo soap, and water purifier.

### Ghana CIC

CIC Development State: Launch Phase

### **OVERVIEW OF PROGRESS**

The Ghana CIC (GCIC) began FY16 with a six-month business acceleration program for seven entrepreneurs selected as top performers in a "Green Innovators" boot camp. The acceleration program supports entrepreneurs in taking their innovative ideas to market. Each of the seven selectees received core training on strategy, marketing, technology, and financing as well as customized support from international experts to move their products into the marketplace. The acceleration program also served to assess and refine the services the GCIC offers.

These initial efforts served an additional purpose in keeping momentum going for the GCIC through challenging interactions with the government of Ghana related to final approval to move forward with the innovation center. Discussions with the government to ensure alignment of the GCIC with Ghana's climate financing priorities delayed FY16 activities for some eight months; final government approval of the GCIC launch came in November 2015. The World Bank signed the grant agreement with Ashesi University, the lead of the GCIC consortium, in February 2016.

With the grant signing, the GCIC consortium turned its focus to recruiting a leadership team, seating an advisory board, building a first-class web and social media presence, and developing the details of GCIC service offerings. Progress on all these fronts pointed to the first call for applicants to the GCIC. A highly successful GCIC launch event was held on May 17, 2016, at Ashesi University, attended by over 100 key stakeholders of the GCIC. Key participants included the President of Ghana's Chief of Staff, the former President of Ghana and current UN Special Envoy on climate change, the Ambassadors of Denmark and the Netherlands, World Bank Directors from Ghana and Washington, and local traditional leaders from Berekuso, where the GCIC is situated. The launch event served to raise the profile of the GCIC with the public and to place it firmly within Ghana's development plans.

Service offerings are being designed in close collaboration with the Austin Clean Technology Incubator from the University of Texas at Austin, hired by the CTP under its global CIC Network activities. The GCIC also began outreach to the CIC Network as well as other clean-tech incubators to learn from the practices of these benchmark institutions. Design of the GCIC's early stage financing facility, the Ghana Climate Venture Facility (GCVF), also progressed during FY16. Details on the GCVF are covered in further detail in the Access to Finance section.

### **KEY ACCOMPLISHMENTS**

- **Business acceleration program:** Seven green entrepreneurs were supported over a six-month period in refining their products and expanding their businesses in the market.
- **Grant agreement signing:** Following some delays in obtaining government approvals, the GCIC grant agreement was signed in February 2016.
- **Staff Recruited and Programs Developed**: Key staff were recruited and the basic service offerings of the GCIC were designed.
- **Successful Launch Event:** A high-profile launch event was held in May 2016 with strong participation from the full range of GCIC stakeholders.

### **KEY LESSONS LEARNED**

- Leveraging the Ashesi brand: Close association between the GCIC and Ashesi University raised the profile of the launch event. The university's strong brand should be utilized to attract top mentors and entrepreneurs to the GCIC.
- **Continued government engagement:** Delays in obtaining government approval reinforce the importance of a positive and ongoing engagement with government. The holdups resulted from government's desire to explicitly ensure that GCIC aligns with the government's climate financing priorities. The GCIC is working to ensure a strong future engagement by government on the GCIC Advisory Board.
- Focus on quality: GCIC plans to focus on delivering the highest quality services for the first cohort of entrepreneurs to establish the reputation of the GCIC as the partner of choice for the most innovative clean technology entrepreneurs operating in Ghana.
- **Global Partnerships:** The experience of the GCIC staff interacting with other CICs and the CIC Network's global clean technology incubation partners demonstrates the strong learning that takes place in such interactions and the value of international partnerships.

### **FY17 WORK PLAN**

FY17 is a critical year for the GCIC as it moves into full operations. The full complement of staff will be in place and the rollout of programs for entrepreneurs is expected in early FY17. An important transition is expected to take place as the interim executive director steps aside for a permanent replacement. Recruiting an entrepreneurship manager will be a similarly high priority, as the position is responsible for leading the design and implementation of programs for the GCIC entrepreneurs. A communications director will be tasked with leading the outreach try hf these entrepreneurs will greatly influence the reputation of the center in the marketplace. Quality rather than quantity will guide this initial work. A second cohort is expected to be selected in late FY17. The size of the second cohort, the business stage of the entrepreneurs admitted, and the design of the GCIC programming will all reflect lessons learned from the first cohort. A permanent headquarters for the GCIC will be completed in FY17, allowing the center to move from temporary offices to its own modern building on the Ashesi campus. Plans call for the facility to be outfitted with modern equipment and workshops for product prototyping and test manufacturing by the GCIC entrepreneurs. Experience from the first cohort programs will inform whether an additional meeting and training space will be added in downtown Accra.

The GCIC will also build out its key networks during FY17, including a network of mentors drawn from among top local and international experts in climate entrepreneurship and innovation. Partnerships with local service providers will offer business and technical expertise to the GCIC clients, while partnerships with other local innovation centers and tech hubs will offer readily available learning opportunities. These local ties will be enhanced through relationships with international clean technology centers. Continued development of the relationship with the government of Ghana will ensure progress toward a more favorable business environment for clean technology companies in Ghana while also developing opportunities involving government procurement of products and services developed by GCIC client entrepreneurs.

The Ghana Climate Venture Facility (GCVF) design will be finalized in early FY17 with a launch of the facility targeted for Q4 FY17. Details on the GCVF are covered in further detail in the access to finance section of this report.

Key Milestone	Expected Date
Launch nationwide outreach campaign	Q1 FY17
Close application period for first cohort	Q1 FY17
Complete key staff hires	Q1 FY17
Complete executive director transition	Q2 FY17
Accept first cohort of entrepreneurs	Q2 FY17
Select seed fund manager	Q2 FY17
Complete seed fund grant agreement	Q3 FY17
Issue call for second cohort of entrepreneurs	Q3 FY17
Launch seed fund	Q4 FY17

### GCIC Launch Event Brings Partners Together in Ambitious Effort

The official launch of the GCIC, held in Accra in May, 2016, provided an opportunity for country and international partners to highlight the ambitious goals for the center over the next decade. The first of its kind in the country, the GCIC supports Ghana's National Climate Change Policy by contributing to the production of clean energy and the mitigation of up to 660,000 tons of CO2, the equivalent of the emissions of almost 140,000 cars for one year. Ultimately, the GCIC is expected to help more than 300,000 Ghanaians increase their resilience to climate change.

"The Ghana CIC solidifies the role of the private sector in helping Ghana manage the effects of climate change," said Henry Kerali, World Bank Country Director for Ghana. "By enabling entrepreneurs and green innovators to test and scale new clean technologies, homegrown business solutions can help the country build climate resilience, while also contributing to job creation and economic development."

Climate change could have a significant impact on Ghana's economy. According to the World Bank report Economics of Adaptation to Climate Change, without a proper green growth strategy, Ghana's agricultural GDP is projected to decline by 3 to 8 percent by the middle of the century. Coastal erosion from rising sea levels could result in significant loss of land and forced migration, while extreme weather events could further strain the country's infrastructure. The services offered by the center will include seed financing, policy interventions, and market connections, as well as technical and business training.

The event drew representatives from the World Bank Group and its GCIC partner, Ashesi University, representatives of the governments of Denmark and the Netherlands, which are supporting the innovation center, and senior representatives from Ghana's government.

### Kenya CIC

CIC Development State: Full Operations

### **OVERVIEW OF PROGRESS**

The Kenya Climate Innovation center (KCIC) represents a model for the successful launch and implementation of a CIC in Africa. KCIC has established an active program and exceeded the targets in its results frameworks. The recipient-executed grant has been fully disbursed and will formally close in November 2016, having been extended from May 2016 to allow time to complete scheduled business trainings, a final audit, and the proof-of-concept grant activities based on agreed milestones between KCIC and its clients.

Via the CIC network, KCIC has actively participated in sharing lessons and expertise with other CICs in earlier stages of development. A guidance note summarizing KCIC's operating model and lessons for clean technology incubation has also provided support to new CICs in developmental stages. A short educational film is also under preparation.

A final independent evaluation of KCIC's first phase is underway, and will add to the body of knowledge on lessons learned and areas for potential replication in other programs.

KCIC is embarking on the next phase in its ambitious journey, completing the suite of services offered with the rollout of the Kenya Climate Venture Facility (KCVF). It has secured additional funds through DANIDA to implement the strategy that will carry the facility through to 2020.

### **KEY ACCOMPLISHMENTS**

- KCIC has progressed well, achieving results beyond the set targets. Since inception, KCIC has:
  - Provided services to 132 clients: 74 engaged in renewable energy projects, 31 in agribusiness, 13 in water and 14 in integrated projects combining renewable energy, agribusiness, and water.
  - Supported 24 clients with PoC grants totaling \$782,000, representing 98 percent of the budgeted amount of \$800,000.
  - Mobilized \$10.5 million of additional funding to the enterprises.
  - Created over 1,120 full time jobs and reached over 68,000 people to better cope with the effects of climate change; mitigated over 129,000 tons of CO2;and helped SMEs reach over 140,000 customers. The supported SMEs have reported 24 percent growth in their revenues.

### **KEY LESSONS LEARNED**

- Upfront investment in establishing governance structures, for both KCIC and KCVF, are time intensive but critical to ensuring smooth operation.
- A strong model of public-private partnership contributes to success. 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.

Partnerships elevate the quality of services and branding. Using partnerships to enhance business
incubation service delivery has been one of the main focal areas of KCIC. Extending beyond the
consortium partners, KCIC has partnered with KARI, WIPO, ECLOF Kenya (a microfinance organization),
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.

### **FY17 WORK PLAN**

The clean-tech ecosystem has matured in Kenya since the launch of the KCIC, opening up new opportunities to strengthen this nascent business sector, as well as KCIC's position within it. While the recipient-executed grant from infoDev was fully disbursed in FY2016, additional funds are available to support KCIC in its next phase. The aim, as with other CICs, is to move KCIC toward self-sufficiency as a center of excellence in the clean technology sector. Achieving this goal will require strong and sustained commitment to enhancing the enabling environment with a focus on improving organizational capacity, client management processes, enterprise pipeline and selection, and policy advocacy.

KCIC has identified promising initiatives for enhancement and expansion of its incubation services. Among these are the design of an investment readiness program; the collection and dissemination of market, technology and financial information on climate change solutions; support for market development for clean-tech entrepreneurs by identifying and developing new market segments; mainstreaming gender in KCIC client portfolio and services; strengthening KCIC branding and public awareness; supporting policy advocacy, and strengthening of the center through organizational development and staff training. The next phase of CTP Bank-Executed support to KCIC will focus on a workplan designed in collaboration with the KCIC, and will focus on several of these areas in order to help meet objectives in KCIC Strategy 2016-2021, with a focus on capacity building.

In addition, CTP will also undertake Bank-Executed Activities to strengthen the broader clean-tech ecosystem in Kenya, working in concert with the KCIC and other eco-system stakeholders. These activities will respond to the increasingly complex demand for climate innovation and entrepreneurship support in the Kenyan market, and focus on connecting local clean-tech firms with global resources by working with various global and local ecosystem stakeholders. In FY17, CTP plans to work on facilitating business model diffusion to clean-tech firms in Kenya.

Key Milestone	Expected Date
Agree Kenya work plan for Phase 2.0 with KCIC (Bank-led advisory work)	Q1 FY17
Complete KCIC film	Q2 – Q3 FY17
Complete KCIC independent evaluation	Q1-Q2 FY17
Roll out Kenyan clean-tech ecosystem support activities	Q2 FY17
Work to improve KCIC's processes	Q3 FY17
Capacity building support to KCIC staff	Q4 FY17



### Future Pump: Lifting rural farmers from poverty through solar irrigation

As in many areas of Sub-Saharan Africa, Kenya's Homa Bay County has semi-arid climatic conditions which significantly constrain agricultural productivity. Located along the shores of Lake Victoria in western Kenya and home to nearly 1 million residents, Homa Bay County is characterized by a rapidly growing population, high population density, falling food production, and low resilience to climate change. The combined effects are increasing food insecurity, environmental degradation, and rising poverty levels.

One potential energy source for the vital task of delivering irrigation water during the dry season in Homa Bay County is the sun. Future Pump, a company supported by KCIC, is leveraging this resource through the portable Sunflower–1 ("SF1") solar irrigation pump. The pump offers a cheaper, cleaner, and more sustainable alternative to costly and polluting gasoline- or diesel-powered pumps. Farmers in Homa Bay are now irrigating their crops using solar power, leading to more reliable harvests as well as the opportunity to grow and sell crops out of season, bringing economic benefits to the farmers, their families, and the wider community.

Since 2015 the company has sold 100 units to farmers and deployed 70 sunflower pumps on their demonstration farm—Shamba Kesho Project Plan—to educate farmers on the benefits of the Sunflower pump. Homa Bay County is a struggling region of Kenya, with a Human Development Index score of 0.46 compared with a national average of 0.56. As Future Pump grows, the SF1 pumps can contribute to improving the lives of those in Homa Bay County, and beyond.

# Morocco CIC

CIC Development State: Launch Phase

### **OVERVIEW OF PROGRESS**

The Morocco CIC (MCIC) launched operations in December 2014. Since then, it has provided grant funding, networking, and support to early- and later-stage enterprises, primarily solar companies. The original \$1.5 million grant from the World Bank Group's Development Grant Facility (DGF) grant ended on June 30, 2015. Since that time, the MCIC has raised some funding from GIZ (Germany's international development organization), the Moroccan Ministry of industry, and MASEN (the Morocco Solar Energy Agency). So far, however, funding to scale-up the center's operations and provide more direct grants to companies is lacking. Moving to a more robust and sustainable fundraising growth stage remains a central challenge and concern for the MCIC.

### **KEY ACCOMPLISHMENTS**

- IFC Technical Assistance funding was secured to strengthen MCIC capacity, streamline and strengthen the business model, prepare to host and participate in events in conjunction with the 22<sup>nd</sup> Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC COP22) to be held in Marrakesh, Morocco, in November 2016.
- Launch of the Green Business Incubator, including acceptance of the cohort of businesses and entrepreneurs to receive incubation services.
- Launch of a pilot fast-track-to-market acceleration initiative.
- MCIC hosted the 1776 Challenge Cup, a competition for high-potential innovators.
- Representatives of the three winning firms in the competition were sent on to Kenya to participate in the Africa-wide 1776 Regional Finals in Nairobi; all three of the Moroccan contestants were selected as winners in the Nairobi competition.

### **KEY LESSONS LEARNED**

- There is strong local institutional support both for the MCIC and its mission through MASEN and the Ministry of industry as well as other donors such as GIZ. All three of these organizations are also contributing financially to the center.
- Fundraising for growth-stage operational funding for MCIC has been a challenge, largely due to the still early stage of MCIC.

### FY17 WORK PLAN

For FY17, MCIC's work plan will be organized into three priority areas. First, the team will focus on strengthening the center's business incubation model. A clean technology entrepreneurship ecosystem diagnostic will be conducted, leading to recommendations for strengthening quality of services to firms—for example, training delivery, incubation, and acceleration—and increasing the capacity of staff to deliver these services to meet the needs of existing green firms. Second, the team will work to support MCIC's outreach and networking efforts locally and internationally to strengthen its links to mentors, funders, and established businesses in order to better meet the needs of existing green firms. Third, MCIC will seek to stimulate and support green market development through demonstration projects in order stimulate the local market demand for green SME products.
Key Milestone	EXPECTED DATE
Finalize diagnostics of MCIC, green business needs assessment, Moroccan clean-tech ecosystem	Q2 FY17
Organize COP22 event	Q2 FY17
Launch demonstration projects	Q3 FY17
Facilitate raising of growth-stage funding	Q4 FY17
Establish linkages to both local and international sources of funding for client firms	Q4 FY17

#### Moroccan Entrepreneurs Shine at Regional Pitching Competition

It began with an announcement on local news and social media. The Morocco Climate Innovation Center was searching for entrepreneurs who could compete alongside the strongest start-ups—not only in Africa, but in the world. Months of outreach and training later, three Moroccan start-ups were invited to compete for \$175,000 in cash prizes and up to \$1 million in investments at a global pitching competition in June, 2016, in Washington, D.C.

The 1776 Challenge Cup is a competition for start-ups with transformative solutions for education, energy, health, transportation, and more. Start-ups advance through three rounds of competitions—local, regional, and global—on the strength of their pitches and potential impact of their business models.

The Moroccan entrepreneurs began their journey at the local competition in Casablanca, hosted by the MCIC and the World Bank Group. From 83 applicants, 14 start-ups were invited to participate in the local competition. Three selectees then went on to Nairobi, for the 1776 Challenge Cup Africa Regional Final. All three were winners there.

"After the local competition and our training, I thought that at least one of the start-ups would be invited to the finals in Washington, D.C.," said MCIC incubator manager Omar Agodim. "Seeing the three of them selected from more than 30 start-ups was incredibly encouraging."

The Moroccan finalists represented the education, health, and finance sectors: GoMobile helps people who cannot read connect to the Internet through mobile platforms that feature voice communication; Hakeeme offers a wearable device that monitors the health of manual laborers and provides anonymous reports of working conditions to government agencies. Moldiag produces affordable diagnostic kits that can detect diseases and viral infections.



# South Africa CIC

**CIC Development State: Full Operations** 

## **OVERVIEW OF PROGRESS**

The South Africa CCIC (SACIC), operational since 2013, is part of the Innovation Hub, a science and technology park established by the Gauteng Provincial Government. During FY16, SACIC has expanded beyond Gauteng Province support green startups nationally. National expansion stemmed from a two-year Green Fund grant of about \$1 million provided by the Development Bank of Southern Africa (DBSA).

From its beginnings providing pre-incubation services, SACIC has been expanding its mandate toward a full incubation operating model. The goal is allow SACIC to provide a more comprehensive suite of services to participating entrepreneurs, start-ups, and companies, and to strengthen its position nationally and regionally as a leading business incubator.

SACIC does not receive direct grants from the CIC Network, drawing its funding from the local government and DBSA. The scope of the partnership between the Network and SACIC focuses on capacity building and technical assistance. In FY16, the CIC Network worked with the SACIC on developing and strengthening the incubation model, operations, and business planning through on-site and virtual workshops and support. The CIC Network supported SACIC in organizing and hosting the 1776 Challenge Cup national competition for promising startups and participation of the SACIC team and winning companies at the national level in the regional competition in Nairobi. The SACIC team has participated in a number of workshops and networking events organized by the Network.

## **KEY ACCOMPLISHMENTS**

- SACIC is supporting 51 companies, with the addition of 21 new participants in FY16. The startups come from different provinces from across South Africa with the majority located in Gauteng Province. Areas of business activity include energy, waste, agriculture, and mobility.
- In FY16, SACIC disbursed about \$51,200 in small grants and investment financing to its startups.
- SACIC training delivered in several rounds covered growth wheel assessment, intellectual property rights, market analysis, pitching, corporate governance, business model canvas training, and investment readiness boot camps.
- SACIC and the Innovation Hub hold competitions and networking events quarterly.
- SACIC has 44 business and technical mentors supporting the startups, and the center is constantly seeking to upgrade the quality and experience level of the mentor network.
- SACIC signed partnership agreements with four provincial incubation partners in the Eastern Cape, Western Cape, and Kwa-Zulu Natal to expand its services nationally.

#### **KEY LESSONS LEARNED**

SACIC management determined that the focus on pre-incubation led to lack of continuity of support to
the companies, limited value addition at pre-incubation, and weakened the value proposition of SACIC.
Companies remained for too long in the pre-incubation program, and encountered a lack of specialized
green technology experts when they reached the incubation phase. These factors contributed to SACIC's
decision to work towards a full incubation model.

 SACIC has worked extensively to enhance its standard operating procedures and monitoring and evaluation systems. Standardized templates for applications, funding requests, mentor feedback, evaluation, and other forms have been developed to address the need for more streamlined operations.
 SACIC is testing the deployment of an online platform to improve communication with its participating companies and mentors.

#### **FY17 WORK PLAN**

The CIC Network will work with the SACIC on finalizing and presenting the new proposed strategy and new incubation model to the Innovation Hub management for final approval. The CIC Network will then support SACIC in operationalizing the strategy by further developing the business plan and operations of the SACIC from application to graduation to enable it to effectively play this expanded role.

SACIC will work to develop and implement a more aggressive fundraising and partnership strategy which can enable it to serve more companies, increase the size of its team, and address some of the key human resource challenges in terms of salary competitiveness and length of contracts for SACIC staff.

At the policy level, the work plan for FY17 includes enhancing the center's advocacy role to engage with the government and other stakeholders on pushing forward the green agenda at the policy and regulatory levels. The Network will also be working with SACIC to develop more effective marketing and positioning through enhanced marketing materials, an improved website, and expanded outreach activities, among other initiatives.

SACIC will be working closely with the Bank Group's Market Connect program in South Africa to create a new pipeline of projects and to gain benefit from the new business and investment financing models which are being developed by Market Connect.

Key Milestone	Expected Date
Finalize strategy document and present to the I-Hub management team	Q1 FY17
Finalize fundraising and partnership strategy	Q1 FY17
Enhance linkages with Market Connect	Q1-Q2 FY17
Revisit and enhance Operations Manual (business processes) for new full incubation model	Q2 FY17
Revisit grant and investment financing model (e.g. selection process, application for fundraising, funding tools used)	Q2 FY17
Redevelop website to better position CIC value proposition and provide greater functionality	Q2 FY17
Develop set of curriculum for training, workshops, etc.	Q2 FY17
Secure new partnership and/or fundraising opportunities	Q4 FY17

#### PowerOptimal Recognized for Advances in Reducing Peak Power Demand

PowerOptimal was established in 2014 to address the increasingly complex and problematic South African power challenge, which is becoming increasingly unreliable and costly. The company is built on established demand-management technology, which is commercially proven with a strong track record of over 50 successful installations over the past seven years. PowerGuard<sup>®</sup> can reduce peak power demand

by up to 50 percent, and reduce electricity bills by up to 20 percent. PowerOptimal's unique demandmanagement technology has led to a number of awards and significant recognition in the recent past. These include: Second prize winner in the inaugural Green City Startup Competition 2015 managed by Resolution Circle on behalf of the City of Johannesburg; Small & Medium Energy Company of the Year in the Africa Energy Awards 2016; Innovation Hub Award at the African Utility Week 2016; Top 10 Finalist (winner to be announced 23 June 2016) in the 2016 Innovation Prize for Africa.



## Vietnam CIC

CIC Development State: Early Operations

#### **OVERVIEW OF PROGRESS**

The Vietnam CIC (VCIC) made significant progress in FY16 toward the establishment of the Center, meeting important milestones including finalization of the grant agreement, the official launch of the Center in December 2015, recruitment of Center's staff and its facility, and provisions of services to entrepreneurs. As the first cleantech innovation center in Vietnam, VCIC is poised to play an important role in advocating policy and supporting the government's commitment to fostering and achieving green growth enshrined in Vietnam's support for the global climate change agreement reached in Paris in December 2015. The VCIC project is also enhancing linkages with other World Bank Group projects, around green growth in Vietnam establishing ties, for example, to the country's Mekong Delta agenda.

As part of the push toward the formal establishment of the incubation center, VCIC continued to carry out prelaunch activities aimed at supporting the ecosystem of local green-tech entrepreneurs expected to be receiving incubation services from VCIC. Two training sessions held in 2015 provided pre-incubation assistance to boot camp finalists in Hanoi and Ho Chi Minh City. Vietnam's National Agency for Technology Entrepreneurship and Commercialization (NATEC) under the Ministry of Science and Technology (MOST) sponsored the sessions along with the World Bank Group team. The finalists will be the first VCIC clients. NATEC was selected as VCIC project leader following completion of a business case study and stakeholder engagement.

The Bank Group team worked intensively with NATEC to bring about the successful launch of VCIC in December 2015. In the first half of FY16, the NATEC and Bank Group teams secured government approvals required for finalizing the grant agreement process and officially establishing the center, and worked with donor and government counterparts to ensure agreement, commitments, and approvals. The government's grant agreement finalization process was substantially accelerated by the commitment of the Bank Group team and the donors to see the VCIC established.

NATEC developed a detailed project outline, approved by the government, and an internal project operating manual. A results framework, also developed with Bank Group support, will be used for reporting on the Center's operations and achievements. The NATEC team identified and secured suitable office space to house VCIC and, with Bank Group support, started designing the office layout, taking into account best practices from incubators worldwide.VCIC formally launched on December 11, 2015, at an event attended by over 150 participants from the government, academia, private sector, and diplomatic community. The launch event provided a forum for a panel discussion that anchored VCIC in the broader innovation agenda in Vietnam. NATEC also signed an MOU with the Vietnam National University of Agriculture to collaborate with VCIC during project implementation. Following the launch, the focus of VCIC efforts turned to becoming fully operational. Among the steps taken toward this goal, the Center advertised seven key staff positions, including an internationally selected Chief Executive Officer. The recruitment process for all positions was completed by end of June 2016. Furthermore, with the appointment of a dedicated Communications Expert (Le Minh) at VCIC, donors and partners will be receiving updates as well as communications materials that may be used for external dissemination. Additionally, the World Bank team will continue to produce communications materials related to VCIC and the entrepreneurs being supported.

Additional VCIC priorities included establishment of VCIC office facilities and the provision of services to companies. The first activity carried out by the Center was a two-day training event in mid-June 2016 for the 19 finalist companies of the first Proof of Concept Grant Competition conducted in 2015. Leading up to the training, a needs assessment of each of the companies was carried out to identify the progress being made since the Proof of Concept and the areas that require strengthening and will benefit from VCIC support. Common themes identified include: intellectual property coaching, marketing support and legal services. During the two-day event, the 19 companies were provided with financial and incubation services and received training on how to strengthen and present their value proposition. The companies had the opportunity to display their novel products at an award ceremony in which they received varying levels of financial support based on the needs and stage of their enterprise. They also received a complete suite of complimentary services offered by VCIC. These 19 companies represent innovative clean-tech solutions to climate change across Vietnam, particularly in the areas of sustainable agriculture and renewable energy.

Following the training, the first VCIC Steering Committee Meeting was held, chaired by MOST Deputy Minister Tran Van Tung and attended by representatives of the Australian Government, State Bank of Vietnam, Hanoi Young Business Association, and World Bank Group.

## **KEY ACCOMPLISHMENTS**

- VCIC launch: The Center was officially launched at a high-level event in Hanoi, on December 11, 2015.
- Capacity building workshop in Washington, DC: In March 2016, following the CIC Network Annual Meeting, the VCIC team held intensive meetings with the World Bank Group team and outside trainers to build operational capacity of the NATEC-administered VCIC staff. Sharing of lessons learned by more established CICs proved valuable to the process. The meetings, held over three days, covered development of the 2016 work plan, staff recruitment, finalization of VCIC office space, and set up of the Project Steering Committee.
- Staff recruitment: A business development expert and an administration and interpreter position have been filled. Recruitment for seven additional positions, including CEO, project coordinator, incubation specialist, commercialization expert, communications expert, project accountant, and IT Expert launched in April and was completed in June with the new staff formally on board as of early July 2016.
- VCIC office establishment: A large office space in the center of Hanoi is being provided by the national government as in-kind contribution toward the project. The team benefited from international best practice examples for incubator office layout, and from a site visit to 1776, the DC-based business incubator. The space is open to companies as of early June 2016.

- Work Plan development: Richard Amato, program manager of the IC2 Institute at the University of Texas
  at Austin, is advising the VCIC team on work plan development for calendar year 2016 and assisting in
  articulating priorities for shaping a near-term strategy.
- Award Ceremony for 19 companies: The finalist companies of the first Proof of Concept Competition were awarded financial support and will receive a suite of incubation services from VCIC over the course of the next 12-18 months. Notably, 7 out of 19 are female-led enterprises, highlighting the Center's focus in supporting female entrepreneurs, in line with the Australian Government's priorities.
- First VCIC Project Steering Committee Meeting: The first SCM was held on June 16, following the award ceremony and training workshop. It was chaired by MOST Vice Minister Tung and attended by Australian Government, State Bank of Vietnam, Hanoi Young Business Association, and World Bank representatives. This offered the opportunity for VCIC to update the SC members on the progress being made and present its work plan for the coming months.

#### **KEY LESSONS LEARNED**

- World Bank country office team familiar with government procedures speeds progress: Vietnam's
  government processes tend to be lengthy and complicated and have the potential to significantly delay
  project development. The support of local Bank Group staff that are well versed in government processes
  helps overcome procedural roadblocks. Engagement of senior World Bank country staff, including the
  Country Director, has also been essential at key project junctures. The Bank Group team has addressed
  this point by assigning a co-Task Team Leader to the VCIC project based in Vietnam.
- Knowledge sharing and expert support key to successful first-phase of operations: VCIC is benefiting
  from lessons learned and shared by more mature CICs and other international incubators. The CIC
  Network provides a conduit for sharing international best practices around clean-tech incubation, staff
  recruitment, and office set-up.
- Staff with international experience important to VCIC success: To establish and maintain a private sector approach at VCIC, selected staff for the positions of CEO, business incubation and commercialization experts should have international experience and well-established networks they can tap to support VCIC operations.

## **FY17 WORK PLAN**

VCIC will focus on accelerating its activities in FY17, continuing to build capacity and enhance services to support enterprises and entrepreneurs. Key areas of focus will include: developing the VCIC strategy, business model and brand awareness; strengthening procedures and processes; and building the capacity of VCIC staff. The project Steering Committee, established in late FY16 with donor participation, will provide strategic direction to the VCIC. Recruitment of VCIC staff will be completed and training will be provided to all newly recruited staff.

VCIC will organize public-private dialogue on climate business and technology incubation and commercialization. The goal is to support policy development, raise public awareness of climate innovation and VCIC's role as an important player in the field. With the Asia-Pacific Economic Cooperation (APEC) 2017 forum will be held in Vietnam, VCIC will continue establishing and developing ties to sector and financial partners.

Initial business incubation activities will include setting up online services for information sharing, capacity building, and fundraising. VCIC will undertake two calls for project ideas and two boot camp training events for development of proposals and business plans, to be held in August 2016 and March 2017. Evaluation of proposals for VCIC support, including grants, are scheduled for September 2016 and April 2017. Incubation activities will begin in FY17 for the 19 companies selected through the 2014 PoCs. An investment promotion conference will be held to help raise funds for selected enterprises.

Updated market analysis on targeted climate areas is underway. A number of innovative products will be brought to international trade fairs and technology transaction markets. VCIC will also provide support for intellectual property and trademark registration.

VCIC will develop an e-portal that includes a database and tools for business assessment. It will also develop a technology database with information on technologies, enterprises, and specialists, and will establish a network of consultants by collaborating with universities, associations, and investors.

Key Milestone	EXPECTED DATE
Develop and approve VCIC strategy and business model	Q1-Q3 FY17
Provide training on relevant subjects to all VCIC staff	Q1-Q3 FY17
Set up E-portal with all communication channels and training materials and database	Q1 FY17
Provide VCIC financial support and/or direct technical assistance to 19 companies	Q2 FY17
Develop four innovative ideas to participate in international innovation competitions	Q2 FY17
Introduce three innovative products to international trade fairs and technology transaction markets	Q2 FY17
Set up relationship agreements with eleven non-financial and three financial partners	Q2 FY17
Organize three public-private dialogues and six workshops	Q2 FY17
Conduct or update market analysis on five targeted climate areas	Q2 FY17
Generate investment for two to three concrete products	Q2 FY17



# VCIC Startup Provides Fishing Boats with Efficient Lighting Alternative

Among the companies being supported by VCIC, Novas Technology provides energy-saving LED lamps cooled by sea water to replace metal halide lamps used by offshore fishing boats. Novas was one of the 24 finalists selected in the VCIC PoC Competition in 2014. Novas later participated in an incubation center boot camp, and with the official launch of VCIC in December 2015, Novas was selected as one of the companies receiving funding and incubation services, along with 18 other companies. In addition to the 200-watt seawater-cooled lamp, Novas also makes a submersible LED lamp that can function down to 50 meters of depth. The lamps save an estimated 15,000 to 30,000 liters of diesel oil per boat per year and reduce emissions by an estimated 60 tons of Co2 per boat per year. The lamps save fishermen an estimated \$15,000 per boat per year on the front end and, on the back end, contribute to an increased catch of 20–30 percent.

# **Chapter 4: Access to Finance**

CTP's Access to Finance (A2F) pillar helps high-potential startups and early-stage clean-tech firms in CIC countries raise financing so that they can develop and grow their businesses. At the country level, A2F's principal focus is on the development and deployment of pioneering Climate Venture Facilities (CVFs) in Kenya and Ghana, which provide direct financing to early-stage clean-tech firms and leverage additional capital for these companies. These activities are complemented by a) an in-depth assessment of a country's early-stage financing landscape, and b) A2F capacity building for CICs and clean-tech entrepreneurs.

At the global level, through the Finance Lab, A2F tests novel financing mechanisms with the potential to address the financing challenge faced by early-stage clean-tech entrepreneurs in developing countries. The results generate lessons and insights and build linkages with impact investors, venture capital funds for small and medium enterprises, climate financiers, and angel investors interested in clean-tech opportunities in the developing world.

## KENYA CLIMATE VENTURE FACILITY

## **OVERVIEW OF PROGRESS**

The Kenya Climate Venture Facility (KCVF) is a pilot financing enterprise investing in start-up and early-stage Kenyan clean-tech ventures with commercial and high-growth potential. Based in Nairobi, KCVF has been set-up by the Kenya Climate Innovation Centre (KCIC) as an independently managed and governed investment company. The facility provides patient risk capital coupled with management and technical assistance for its investee companies. The aim is to leverage co-investment and follow-on capital to its investee companies. Over the next three to four years, KCVF plans to raise additional funding to enable expansion and portfolio growth.

With its focus on start-up and early-stage investing in the clean-tech sector, development of a pioneering investment model that maintains commercial discipline while being tailored to the financing needs of its companies KCVF represents an important new addition to the country's ecosystem for impact investing, private equity, and venture capital in a sector regarded as critical to sustainable development.

The goal for FY16 was to launch KCVF and build a base for its investment activities with an eye toward its longerterm sustainability and development. The main focus was to build the core management and governance of KCVF, set-up the KCVF investment company, and develop the core investment and operational processes of the facility. As of the end of FY16, KCVF has achieved its core operational build-out and begun its investment activities.

## **KEY ACCOMPLISHMENTS**

- The most important achievement for FY16 was the successful recruitment and mobilization of a highly experienced Investment Committee to provide the core portfolio governance and strategic direction of KCVF. The IC consists of five members with complementary backgrounds in early-stage entrepreneurship, venture capital, and private equity and clean-tech investing and funding.
- A chief investment officer for the facility is in the final stages of recruitment. Other team members will be recruited in FY17.
- KCVF has been legally incorporated as a private investment company (limited by shares) in Kenya.

- Core investment activity commenced in the second half of the fiscal year focused on developing the initial investment pipeline, including from KCIC client companies. The IC considered 20 companies for initial investment, including opportunities in off-grid energy, climate-smart agriculture, and clean cook stoves; two of those proceeded to the due-diligence stage.
- The core investment and operational processes for KCVF have also been developed.

#### **FY17 WORK PLAN**

The goal in FY17 will be to build an initial portfolio of start-up and early-stage investments that set the stage for further portfolio development and expansion in subsequent years. The Facility will source deals from both the KCIC client pool and other sources and will make and manage investments through its independent management and governance process (led by the Investment Committee).

Given its central focus on crowding in additional capital to its investees, KCVF will build strategic relationships with impact investors and other relevant financiers who are active in clean tech and may be interested in financing KCVF investee companies. In addition, KCVF will also build a network of mentors and TA providers who can supplement the investment team to add non-financial value to investee companies.

Because KCVF is testing and developing a new investment model to specifically cater to promising start-up and earlystage clean-tech investors, it will generate ongoing learnings on its investment model practices and processes. It with therefore iterate and refine its investment model in the second half of FY17 based on these learnings.

Finally, KCVF will need to raise additional funding to enable its long-term sustainability and growth. In this regard and based on its learnings from its first two years of operations, KCVF will develop a longer-term business plan before the end of FY17. This business plan will set the strategy and model of KCVF beyond its initial funding from the World Bank.

Key Milestone	Expected Date
Make investments over the course of the year	Q2-Q4 FY17
Recruit qualified personnel for remaining investment team positions	Q2 FY17
Build strategic relationships with other investors	Q2-Q4 FY17
Mobilize network of technical assistance providers and mentors for portfolio companies	Q3 FY17
Refine investment and operating processes and model based on lessons learned	Q4 FY17
Develop longer-term KCVF business plan	Q4 FY17

# GHANA CLIMATE VENTURE FACILITY

## **OVERVIEW OF PROGRESS**

The Ghana Climate Venture Facility (GCVF) is the financing component of the GCIC project. Building on the GCIC's incubation activities, GCVF will address the financing gap faced by high-potential early-stage clean technology enterprises. The facility will provide early-stage financing and high-touch management assistance to help high-potential early-stage clean-tech businesses in Ghana.

During FY16, infoDev's Access to Finance (A2F) team undertook a detailed mapping of the early-stage clean technology financing landscape in Ghana. The team conducted a mapping of local and international co-investors to increase the GCVF's potential pool of capital. The GCVF was approved in FY16 by the World Bank and the government of Ghana as part of the overall GCIC project.

Design of the GCVF was initiated in the last month of FY16, providing a runway to rollout of the facility in FY17. Preliminary design indicates that the GCVF will be managed by an investment team experienced in early-stage and clean-tech investing. The GCVF commercial approach will use a range of instruments—equity, debt, mezzanine—to provide tailored financing to investee companies. The capital provided will be coupled with high-touch management assistance partially arranged through the GCIC's business support activities. GCIC would support GCVF activities by being a source of deal-flow for the facility and providing technical assistance to GCVF's investee companies.

#### **KEY ACCOMPLISHMENTS**

- **Project approval:** The GCVF was approved under the overall GCIC project by the World Bank and the government of Ghana.
- **Landscape mapping:** A detailed landscape mapping of early stage clean technology financing provided the on the ground intelligence necessary to design a facility appropriate for the Ghanaian context.

#### **KEY LESSONS LEARNED**

- **Single project:** The GCVF was approved as a component of the GCIC project. This approach was taken to improve rollout time, based on experience with the Kenya facility.
- **Ghana's financing ecosystem:** The landscape mapping revealed the state of play for the GCVF, including the likely pipeline, the nascent financing ecosystem in Ghana and the potential of key partners for management of the facility and co-investment.

#### **FY17 WORK PLAN**

The goal for FY17 will be to launch the GCVF. This will require the following actions:

- Facility Design—Decisions on the design of the GCVF will take place in Q1 of FY17 including the investment thesis, the facility's legal structure, management structure, and operating principles. The core design of GCVF will reflect lessons from the KCVF investment model, but tailored to the context of Ghana's nascent financing eco-system.
- **Fund manager selection**—Selection of a fund manager will take place in Q2 FY17, working closely with the GCIC host institution, Ashesi University, the expected recipient of the GCVF grant from the World Bank.
- Grant agreement—The team will target Q3 FY17 to sign the grant agreement to fund the GCVF.
- Additional funding opportunities—While the GCVF's \$5 million World Bank grant is enough to lay the foundations of the facility and make the first set of investments, the goal is to go beyond this initial grant by leveraging funding from donors and, eventually, investors for the expansion of GCVF's investment portfolio. Fund raising will take place throughout FY17 and will involve the identified fund manager.
- GCVF Launch—If the above steps all go forward without unforeseen setbacks, a launch of the GCVF is targeted for Q4 FY17.

Key Milestone	Expected Date
Complete facility design	Q1 FY17
Select fund manager in partnership with Ashesi	Q2 FY17
Sign GCVF grant agreement	Q3-Q4 FY17
Launch GCVF	Q4 FY17

## **FINANCE LAB**

Finance Lab focuses on testing novel financing mechanisms and models that address the financing challenge faced by clean-technology entrepreneurs. A key design feature of Finance Lab will be to identify and work with financial sector innovators (ideally those that are active locally in countries of focus) that are developing the next generation of solutions to increase access to finance for entrepreneurs. The objective of Finance Lab pilots will be to generate concrete lessons and key insights that can be applied by public, private, or development institution stakeholders to do further testing or to scale-up validated pilots. Finance Lab will conduct four innovative finance pilots over the course of the program.

## **OVERVIEW OF PROGRESS**

- In FY16, Finance Lab began early implementation on a second pilot in South Africa employing a redesigned methodology and approach that built on insights and lessons learned from the first finance pilot in Kenya on crowdfunding.
- The South Africa pilot is being managed by a competitively selected consortium based in Cape Town and consisting of the GreenCape development agency, the Bertha Center for Social Innovation, and Impact Amplifier.
- A South African innovative finance landscape was carried out in the second and third quarters of FY16 to identify potential pilot opportunities that would be relevant to the financing challenge faced by cleantech SMEs, as well as to develop a deeper understanding of the overall early-stage finance eco-system. Opportunities explored and assessed included angel investing, equity crowdfunding, an online lending platform, and de-risking facilities for clean-tech investors.
- The pilot selected is in partnership with a South African online lending platform that facilitates working capital for South African SMEs from retail and institutional funders through a technology enabled rapid credit assessment process. The pilot involves testing different products that enable green SMEs to raise working capital and other forms of debt from institutional and retail lenders through a multi-cycle process over a 15- to 18-month period. Product prototyping and market testing has begun for the green SME debt financing product.

#### **KEY ACCOMPLISHMENTS**

- Based on lessons learned from initial pilot activity in FY15, a revised framework was developed in FY16 for the approach and methodology used in developing and implementing Finance Lab pilots.
- Initial scouting for a second Finance Lab pilot in South Africa was completed. This included a mapping of the innovation finance landscape in South Africa, developing ideas to pursue and a list of local innovators who could be partners.
- A South Africa-based consortium of organizations experienced in the clean-tech sector, investment readiness facilitation, and innovation finance was selected to develop and coordinate the pilot.
- With the preliminary work completed, the new Finance Lab pilot was launched with a South Africabased online lending platform, RainFin, engaged to prototype and test market financing products for an initial set of green SMEs.

#### **FY17 WORK PLAN**

In FY17, RainFin will continue implementation of the new Finance Lab pilot, launched in FY16 in South Africa, working with local clean-tech firms and early-stage financiers. The pilot will involve development and market testing of online lending products for green SMEs. Implementation will proceed throughout the fiscal year and into first half of FY18. Insights and lessons will be documented through each stage of the process, leading to a lessons-learned report.

In addition, one to two new pilots will be launched in other countries where the CTP is operates climate innovation centers. The thematic focus will prioritize new financing models involving: a) investment readiness and facilitation; b) technology/platform financing; and c) investor aggregation and coordination along with other thematic areas in early-stage financing. As in FY16, the process will involve exploring and short-listing potential pilot opportunities anchored in specific countries, and identifying and engaging local pilot partners who have the operating capability and strong interest in testing and developing new models and mechanisms for early-stage finance.

Key Milestone	Expected Date
Implement South Africa pilot	Q1-Q4 FY17
Organize design workshop for new green financing instruments	Q1 FY17
Complete first cycle of testing	Q2 FY17
Complete second cycle of testing	Q4 FY17
Generate interim lessons-learned brief	Q4 FY17
Explore and launch additional pilots, in Kenya and one other country	Q2-Q4 FY17
Short-list pilot ideas and identify local and international implementing partners	Q2 FY17
Conduct basic pilot set-up	Q3 FY17
Launch one to two pilots	Q4 FY17

# Chapter 5: CTP Global Solutions: Improving the Effectiveness of Support Models

## LAUNCHPAD

## **OVERVIEW OF PROGRESS**

In FY16 the full suite of Launchpad activities got underway toward the ultimate goal of expanding the network of Climate Innovation Centers to additional countries around the world. Launchpad selected four World Bank Group country teams from the first cohort participating in the CIC Exploration Stage for advancement to the CIC Business Plan Stage. The level of potential for the concepts developed by the Bank Group teams, and the level of client country support for hosting a CIC, were important considerations in the selection process.

A second cohort of eight country teams was recruited for participation in another CIC Exploration Stage. This brought the total of teams to 12 working to develop CICs in four World Bank regions: Latin American and the Caribbean, the Middle East and North Africa, Africa, and South Asia. The CIC initiative and Launchpad support climate change ventures working in both the mitigation and adaptation sectors. Accordingly, Launchpad has mobilized a number of subject matter experts from within the World Bank Group, notably the Climate Change Cross Cutting Solution Area, and from outside the Bank Group to support CIC development across the spectrum of climate change activity.

Teams from the first cohort have been actively engaging stakeholders from the public and private sectors. In some countries, such as Egypt and Malawi, government strongly supports the CIC initiatives. In others, champions come from the non-profit and private sectors. On the technical side, Launchpad teams are benefiting from insights coming from a variety of sources. These include lessons learned generated by an ongoing assessment of the existing CICs conducted by the Climate Technology Program, expertise gained through interaction with the CIC assessment expert, and guidelines set down in a newly developed CIC handbook.

## **KEY ACCOMPLISHMENTS**

• Country teams from the first cohort of Launchpad produced eight Country Exploration Reports and four teams were selected to advance to the CIC Business Plan Stage, which is one more team than expected under the results framework. The teams are listed in the table below.

CIC Business Plan Countries in Cohort 1	Торіс
Egypt	Renewable energy and energy efficiency
Malawi	Renewable energy
Nigeria	Renewable energy
Tanzania	General climate technologies

- In FY16, Launchpad mobilized 99 staff from across the World Bank Group, working in teams, who developed and proposed concepts for 22 new CICs.
- Out of these proposals, a panel of judges shortlisted eight teams to develop CIC Exploration Reports, listed in the table below.

Shortlisted Countries for Cohort 2	Торіс
Bangladesh	Climate smart agriculture
Brazil	Climate smart agriculture
Grenada	Eco-tourism
Haiti	Energy access
Madagascar	Fisheries and climate smart agriculture
Mauritania	Fisheries and climate smart agriculture
Sri Lanka	Eco-tourism
St Lucia	Eco-tourism

- In FY16 Launchpad teams conducted 23 trips to target countries and led seven multi-stakeholder workshops.
- Of the current 12 Launchpad teams, 6 have team members residing in the target CIC country while the others work with local independent consultants.
- In FY16 CTP recruited Erik Simanis, one of the world's leading experts on market creation in base-of-thepyramid (BoP) markets, as an advisor to Launchpad teams. This addition to the CTP team addressed the recognition that traditional small and medium enterprise support approaches face serious limitations when addressing BoP markets such as access to energy solutions for rural areas.

#### **KEY LESSONS LEARNED**

- There is strong demand for CICs in both the public and private sectors in a critical mass of countries. For example, in Egypt the clean technology sector has recently received a major market and government push in response to energy shortages.
- Countries with little industrial development, such as Malawi, generally have similarly limited green innovation ecosystems. This means that CICs in those countries must engage more broadly and deeply in supporting climate technology SMEs than is the case in the existing CIC network.
- In some countries, such as Nigeria, government policies unfavorable to clean-tech business models impose additional costs and risks on clean-tech SMEs. This increases the importance of CICs promoting the value of the clean-tech sector.
- In a number of countries, such as Malawi and Egypt, customer demand for clean energy products has been dampened by the recent influx of low-quality clean-tech imports and CICs may need to help SMEs and customers differentiate quality levels in the market.
- BoP clean energy access in rural areas remains challenging, if not entirely elusive, in all 12 Launchpad countries. Market and infrastructure barriers are compounded in these markets. Supporting SMEs in these markets will require special targeted support.

#### **FY17 WORK PLAN**

In FY17, the four Launchpad teams from the first cohort will finalize business plans for CICs in Egypt, Malawi, Nigeria, and Tanzania in August 2016 and raise funds. Each business plan will include the background and context of the program, an analysis of needs, an analysis of opportunities, alternative CIC concepts, an operational plan, financial projects, and a results framework.

At least three out of the four CIC business plans are expected to be selected for the Pre-Launch Stage on the basis of a strong demand-driven business plan and funding commitments. These teams will then receive further budget and technical support from CTP to prepare the launch of CICs in their respective countries over the course of 12 months. The 12 month timeline will account for donor budget cycles and government approval processes.

The second cohort of Launchpad teams will develop at least six Exploration Reports that will outline ideas selected on a competitive basis. The reports will provide a preliminary feasibility assessment of developing a CIC in a range of countries. Demand from stakeholders will be an important consideration in the selection of the countries. Stakeholders will include political champions in the government, public and private organizations willing to work with the World Bank Group to take the CIC concept forward, donors, and World Bank Group country programs. The latter will facilitate the high-level government dialogue that is required to garner public sector support.

Country exploration reports for the second Launchpad cohort will be finalized in July 2016. The four exploration reports with the highest potential will be selected and turned into CIC business plans over an 11-month period. If there are more than four compelling business cases, more than four teams may be selected.

In FY17 Launchpad will develop a lessons learned report on CIC development methodologies as well as on new mechanisms to support green technology entrepreneurs that have emerged from Launchpad's CIC development process.

Key Milestone	EXPECTED DATE
Cohort 1:	
Develop at least three CIC business plans	Q1 FY17
Select at least three country teams for pre-launch stage	Q2 FY17
Cohort 2:	
Finalize at least six exploration reports	Q1 FY17
Select at least four country teams for business plan stage	Q2 FY17
Lessons learned report	Q4 FY17

## INSIGHT

## **OVERVIEW OF PROGRESS**

In FY16, Insight continued efforts to capture and disseminate the lessons emerging from CTP activities and to advance the frontiers of knowledge on climate technology innovation and entrepreneurship. Research outputs flowed from both country-focused CIC activities as well as global activities under Launchpad, Market Connect, and Finance Lab. These complementary research efforts promote CTP's overall agenda to advance practical knowledge on climate technology.

• **Thought Leadership:** Based on the activities of Market Connect, CTP produced *Connecting Green Technology Entrepreneurs: Implications for Public Program Design.* The study drew lessons for policy makers supporting green entrepreneurs from 14 selected case studies of successful open innovation networks. A launch event featuring key actors in these networks was held in June 2016. The Insight team made significant progress in FY16 researching for another Insight report, *Scaling Green Business*, scheduled for completion and publication in FY17. Research got underway on a report on *Financing Climate Technology*, with the majority of research work to take place in FY17.

- **Practical Guidance:** A new knowledge series, *CTP In Brief*, launched in FY16. These briefs will become a main channel for dissemination of CTP lessons and knowledge, and are intended as a quarterly publication of the CTP program. Three briefs inaugurated the series in FY16: *Crowdfunding for Green Businesses: Lessons from East African Startups, The Kenya Climate Innovation Center: How it Operates and Lessons for Clean Technology Incubation*, and a brief summarizing the *Connecting Green Entrepreneurs* report. These notes provide lessons on the CIC model and network, analysis of climate technology innovation and deployment challenges, and practical insights aimed at development partners, policy makers, Launchpad teams, and other stakeholders supporting CICs or similar green entrepreneurship programs.
- Collaboration and Engagement: Collaborations with international partners and participation or organization of select events remained an Insight priority in FY16. Notable events used for disseminating CTP knowledge products included the CIC Network Annual Meeting, two World Bank Group green competitiveness events, the Ghana CIC and *Connecting Green Entrepreneurs* launch events, the Africa Diaspora Annual Meeting, and several Bank Group workshops on topics such as early-stage investing.

#### **KEY ACCOMPLISHMENTS**

- Launch of CTP In Brief Series: The series offers an important new outlet for regularly sharing CTP experience and knowledge with a broad audience. While publication started later than planned in FY16, the first three briefs set a strong standard and built momentum for the series.
- **Connecting Green Entrepreneurs Report:** This publication advances knowledge around open innovation, technology brokering, and networking as options for advancing green entrepreneurship in developing countries.
- **Events:** Insight has increased its presence at external and internal Bank Group events. Coinciding with progress on Launchpad, this elevated profile has served to greatly expand knowledge dissemination on CTP experiences across the Bank Group.

#### **KEY LESSONS LEARNED**

- **Opportunity to scale up knowledge work:** CTP lessons are becoming more apparent now that the first generation of CICs is fully launched and CTP Global activities are underway. This presents an important opportunity to scale up knowledge work in FY17.
- Developing CTP thought leadership based on grounded experience to inform global climate technology stakeholders: CTP's unique advantage stems from the experience on the ground with CICs working every day with client country entrepreneurs. The value in Insight, therefore, is to share these practical experiences but also to draw globally relevant lessons that can inform and increase activity from other stakeholders working in the climate technology space. CTP is one participant in a global set of actors (investors, researchers, governments, business enablers, development organizations) that should all be informed by the CTP experience.

#### Notable Success: Launch of CTP In Brief Series

The quarterly *In Brief* series, launched in FY16, serves to regularly capture and disseminate CTP research and lessons learned in an informative and engaging format. The first three briefs are:

**Issue 1 Crowdfunding Lessons for Green Businesses:** Crowdfunding offers a new alternative to address the financing needs of capital-intensive clean technology businesses in developing countries. This brief shares lessons from a crowdfunding pilot run by the Kenya CIC and similar pioneering East African crowdfunding experiences.

**Issue 2 Kenya Climate Innovation Center Operating Model:** Launched in 2012, the KCIC was the first CIC to be established by CTP. 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.

**Issue 3 Connecting Green Technology Entrepreneurs:** Based on a review of the recent literature and fourteen case studies of open innovation programs, this brief draws lessons that inform the design of new public sector programs aimed at supporting green technology entrepreneurs.

#### **FY17 WORK PLAN**

The Insight component of CTP will broaden and scale up its activities in FY17, and systematically produce knowledge products based on CTP experiences and aimed at tackling unsolved research questions that can help unlock new support models for climate technology entrepreneurs. While the CTP has already published analysis exploring new opportunities for climate innovation and disseminated lessons from CTP projects, two factors are now driving the scale-up of this work. The first is the maturity of the program, which provides Insight with a critical mass of experience that strengthens the lessons it can draw from concrete country-based projects across a range of geographies and sectors. The second is the renewed global push on climate change, including a particular focus on innovating new solutions driven by the private sector, an approach that aligns closely with CTP strategy and actions and represents an increase in demand for CTP knowledge.

The CICs are among a number of emerging models for supporting climate technology entrepreneurship in emerging and pioneer markets. Each model aims in different ways to address the urgent and unsolved barriers faced by climate technology entrepreneurs in these markets. Insight research aims to understand these barriers and identify which of these support models work most effectively and how they can be improved upon. Through its work, Insight seeks to influence the CIC model that is evolving through Launchpad and, further, to influence the broader set of climate technology entrepreneurship support models being deployed globally.

To best meet demand for knowledge in this sector, CTP is establishing partnerships with complementary efforts, both as a way to sharpen and increase relevance of the knowledge products, and to enhance dissemination. CTP's location within the Innovation & Entrepreneurship unit of the Bank Group's Trade & Competitiveness Global Practice gives it access to cutting-edge practices in this sector as applied to developing countries. CTP can take advantage of its position to develop links with internal partners, including the Climate Change Group, IFC, as well as sector-specific practices such as Energy and Water. In addition, Insight will strengthen and expand existing relationships with the many external partners interested in lessons learned from the CTP. Potential external partners include multilaterals working in climate change, non-governmental organizations, and industry associations. External collaboration can involve both joint knowledge products as well as less formal coordination and participation in events to enhance the dissemination of reports and lessons from CTP.

To more effectively organize the full range of knowledge emerging from the CTP that Insight will package and disseminate, the following two strategic pillars of learning and knowledge products will be established:

**Pillar 1—Stimulating Climate Innovation Processes, Ecosystems and Markets** will develop lessons directly from CTP work on how to stimulate innovation of new climate solutions for developing countries. It will examine the CICs and other CTP projects and draw out lessons from successes and setbacks as relates to bottom-up innovation in this space. This work will also draw on the activities of other climate technology stakeholders to further inform CTP's own work.

**Pillar 2—Emerging Climate Technologies and Solutions** will examine the companies the CTP supports as well as other companies and solutions to assess what new climate solutions have the highest commercial potential for scaling to deliver widespread environmental and economic benefit. This pillar will identify technology and business model trends within the CTP portfolio and elsewhere to produce reports on the most promising solutions and related markets.

Important products for FY17 include:

- Scaling Green Businesses report: Addresses the question of whether some climate technology business models are truly scalable and how policy makers and other stakeholders can design efforts to overcome commonly found barriers to scale. To be published and broadly disseminated in FY17.
- Financing Climate Technology Businesses: Addresses open questions around the particular financing needs of early stage climate technology businesses and proposes improvements to the financing mechanisms available to address those needs. To be completed in FY17 with major dissemination set for FY18.
- CTP In Brief Series: Quarterly publication highlighting key CTP experiences, lessons and new knowledge produced.
- New Models for Climate Innovation, Entrepreneurship and Competitive Industries: In recent years, there have been a wide range of efforts to support local industries to get more involved in growing climate technology sectors, with a special focus on innovating new solutions. While these provide many lessons, no accepted paradigm or set of models is in place to get the local private sector more successfully and competitively involved. This is especially true for developing countries where climate needs are most acute and that have the most to gain from private sector development in new sectors. This knowledge piece will draw lessons from relevant experiences and the latest literature in proposing new models to support local private sector to succeed in key climate-related sectors for economic development and more cost-effective and locally relevant solutions. The work will pair a global overview with application of models to selected countries to more concretely assess effectiveness. To be initiated in FY17.

Insight will significantly expand knowledge dissemination through event participation, including organizing two or more CTP Insight events and participating in four or more external events.

Key Milestone	Expected Date
Publish In Briefs quarterly	Q1-Q4 FY17
Initiate New Models for Climate Innovation, Entrepreneurship, and Competitive Industries report	Q2 FY17
Launch Scaling Green Business report	Q3 FY17
Final draft of Financing Climate Technology Businesses report	Q4 FY17

# MARKET CONNECT

## **OVERVIEW OF PROGRESS**

The Market Connect initiative to support more mature clean-tech entrepreneurs and link them to international markets got under way on a pilot basis in FY17 in South Africa. The pilot, based in Cape Town, completed initial scoping in FY15 and has entered the implementation phase. A local consortium, selected on a competitive basis, has begun testing and scaling a variety of activities. The consortium consists of the GreenCape Development Agency, the Bertha Center for Social Innovation, and Impact Amplifier, working in collaboration with the South Africa Climate Innovation Center (SACIC). Late in FY16 Market Connect initiated scoping for additional pilots to provide enhanced support to the CICs in the Caribbean, Kenya, and Morocco.

Activities tested during FY16 included the facilitation of international business model diffusion to South Africa, and the building a network of local and international investors to facilitate access to financing for local green firms. The consortium engaged with many different local players and firms to conduct and report on initial research to indicate the potential in South Africa for these activities. The analysis identified energy—including renewable energy, base-of-the-pyramid (BoP) access to energy, and energy storage—as the sector with the highest business potential. Issues relating to the unreliability of current energy services in South Africa and limited access to energy among impoverished populations were key factors.

In conjunction with the South Africa pilot, Market Connect in FY16 began development of a global network of climate technology investors. The team launched a global scoping exercise to determine whether such a network existed and to identify the relevant actors who would make up such a network. Investors were clustered into one of three categories: core; network; or emerging investor:

- Core investors are impact-oriented, with a clear appetite for early-stage clean-tech SMEs in selected developing markets.
- Networks include networks and platforms that work with different investor groups to mobilize impact investments, for example labeled groups such as the Global Impact Investing Network (GIIN) that focus on knowledge sharing, or platforms that consolidate members and facilitate club deals and learning opportunities, such as Pymwymic.
- Emerging investors make mainstream investments but would consider certain deals that fall within the CTP scope, for example fund managers with emerging impact strategies (e.g. family offices) and investors developing relevant sector or geographical strategies. The emerging category makes up the largest group in the database.

## **KEY ACCOMPLISHMENTS**

- Identified local consortium implementing partners for first prototype and pilot activities in South Africa, in partnership with SACIC.
- Conducted detailed research on the potential for different pilot activities in South Africa.
- Hosted two design workshops with CIC participation to select and design the prototype and pilot activities.
- Identified 150 potential global investors, including funds, foundations, other asset managers, high-networth individuals, and family offices. Conducted interviews by phone and in person with 40 investors to categorize and prioritize them for further engagement.
- Scoping activities conducted in the Caribbean, Kenya, and Morocco for additional Market Connect pilots.

## **KEY LESSONS LEARNED**

#### South Africa:

- Some common highly scalable international green business models do not exist in South Africa, due in part to limited exposure of entrepreneurs to international markets.
- There is a mismatch between supply and demand of green financing, and local financial intermediaries have limited relationships with international investors. There also exists a burgeoning venture financing market.
- A number of innovation intermediaries are experimenting with new models of support to entrepreneurs, including to climate technology entrepreneurs. There are opportunities to leverage these efforts to develop global market connections and new financing instruments for climate technology entrepreneurs.

#### **Globally:**

- Many high-net-worth individuals, smaller family offices, and individual investors have historically
  preferred to make impact investments in their own neighborhoods because they feel closer to the deal
  and more comfortable with the ecosystem. However, there is growing interest in making investments in
  developing markets. Investors without a local presence would value having a local partner with regional
  expertise to provide post-investment technical assistance to the firms and investees. This provides an
  opportunity for a Market Connect platform that would connect global and local investors that could
  provide post-investment assistance.
- Most investors in East Africa and other emerging markets are not sourcing these deals through intermediaries. There is an opportunity to decrease search costs for international investors by connecting them to viable intermediaries who can help them source deals.
- Many investor groups are committing significant resources to developing impact strategies and metrics tailored to their own membership. But these metrics are not standardized and are difficult to compare. These requirements are difficult for investment readiness providers and SMEs to know and understand. There is hence an opportunity for Market Connect to help disseminate investment requirements among local investment readiness intermediaries and SMEs.
- To secure a credible European or U.S. champion investor, most businesses need to be generating revenue generating, show clear growth plan, and have credible promoters and entrepreneurs. This means that Market Connect will need to be very selective in the types of intermediaries and entrepreneurs that are matched with global investors.

Initial scoping revealed that there is an opportunity to do more coordination with investors and investor platforms on specific markets and market segments. Early conversations indicate that there may be opportunities for syndication across platforms.

#### New countries for Market Connect pilots:

- Initial scoping revealed that Kenya presents ample opportunities for Market Connect given Kenya's
  status as an entrepreneurship hub in Africa, as demonstrated by the success of KCIC in developing a
  robust pipeline of clients and by the other green ventures such as M-Kopa and One Degree Solar. Kenya
  also offers a number of innovation intermediaries who could support the diffusion of green business
  models from other countries throughout the Kenyan economy.
- Initial scoping in the Caribbean and Morocco revealed potential for Market Connect, but green entrepreneurship activities in these markets are more diffused and will require a deeper assessment.

## **FY17 WORK PLAN**

- In FY17, Market Connect activities in South Africa will be in implementation and will be launched in at least two additional countries.
- Up to three different pilot activities will be scaled up and further refined over FY17, with the participation
  of local green firms, international knowledge brokers, and investors. Candidates for these pilots include:
  (i) international business model brokering and diffusion, which will facilitate the adoption of scalable
  international business models into the South African market; (ii) international investment facilitation, to
  will help broker relationships between the international investment community and local financing, and
  (iii) further developing peer-to-peer financing in the green sector that was prototyped in South Africa
  over FY16.
- Scoping for Market Connect activities will be undertaken in several other countries. In Kenya, Market Connect will select local partner intermediaries to support the diffusion of business model support activities. It is expected that more than one partner will be selected in Kenya to increase the reach of Market Connect. After more in-depth scoping, Market Connect will engage partners in either the Caribbean or Morocco. In all cases Market Connect activities will leverage CIC and Climate Venture Facility activities.
- In FY17 Market Connect will continue to develop the investor network. The team will continue to conduct
  analysis of investor interests and experience in early-stage financing of entrepreneurs and SMEs to inform
  future program development, analytical products, and policy recommendations through interviews and
  in person meetings. The team will solicit design input into the various access-to-finance projects that will
  launch in the next fiscal year. The team will also begin to engage international impact investors to invest
  in CTP Access to Finance products in Ghana, Kenya, Morocco, and South Africa.

Key Milestone	Expected Date
Host design workshop to select two or three pilots to scale and implement over 14 months, in collaboration with SACIC	Q1 FY17
Launch selected pilots over 14 months	Q4 FY17
Bring in international resources (knowledge brokers, impact investors) to support pilots	Q2-Q3 FY17
Finalize scoping of activities in Caribbean, Kenya, and Morocco	Q1 FY17
Select partners in Kenya for implementation	Q2 FY17
Select at least one other implementation partner in another country (the Caribbean or Morocco)	Q4 FY17
Launch Market Connect pilot in Kenya and at least one other country	Q3 FY17
For Global Impact Investing network:	
Build CTP investor database	Q4 FY17
Begin design of a formal investor network and offering	Q4 FY17
Establish strategic partnership with a key ecosystem player	Q4 FY17
Conduct roundtables with investors to get design input into various finance pilots and projects	Q4 FY17

## IMPACT

## **OVERVIEW OF PROGRESS**

The Impact team of the global Climate Technology Program (CTP) built on the solid foundation of its launch in FY15, its early results, and its plan of action for FY16. The common thread all along has been a commitment to rigorous results measurements at both the programmatic and the CIC levels.

The CTP Global results framework went through an extensive review and finalization process in FY16, including a thorough target revision exercise for the goals agreed upon at program inception. The review culminated with a finalized CTP Global results framework (RF).

Through extensive consultation with and capacity building of CIC staff, the team managed to finalize results frameworks for six of the seven active CICs. The results framework for the South Africa CIC is in process. A 'finalized' RF means that every CIC owns and has committed to the standard list of indicators (meaning the output, outcome, and impact indicators used across all CICs) and time-framed targets.

At the beginning of FY16, the M&E team launched a comprehensive initiative aimed at systematically designing and building a robust monitoring system for CIC activities and supported businesses. The initiative sought to provide a better understanding of the CIC operational model and client business progress, as well as insights into strategic decisions at the network and CIC levels. At the core of the monitoring system were the design and development of a standardized data collection process, consisting of eight online forms to be used at different touch points between CICs, their partner service providers, and their businesses *(see Chart 2 below)*. The process and related forms will be fully operational and rolled out to the CICs in FY17.



#### Figure 4: Data Collection

Form	Description
1. Application Form	When businesses/entrepreneurs apply for admission
2a. Enabler Profile	Profile and basic information of the CIC
2b. Staff Profile	Profile of CIC staff
3. Service Provider Profile	Profile of CIC's partner service provides (ex. Mentors, coaches, etc.)
4. Application Status	Update on application status
5. Service Provision	Information on service provision sessions to businesses/entrepreneurs
6. Evaluation of Services	Businesses/entrepreneurs feedback on service provision sessions
7. Business Update	Quarterly updates related to firm level indicators, product development and additional financials raised
8. Enabler Update	Any changes in CIC basic information, knowledge products produced, knowledge sharing events and media apperances

Another key deliverable for FY16 was the creation of a prototype of online dashboards, which will utilize data as it comes in from the different online collection templates. The prototype is being tested with stakeholders—internally, through the CIC Network, and externally, with CICs.

#### **KEY ACCOMPLISHMENTS**

- A revised and finalized CTP Global log frame and results framework.
- Revised and finalized RF for all CTP Global components (Launchpad, Market Connect, Insight, CIC Network, Finance Lab, and Impact).
- Revised and finalized RF for six of the seven CICs (Caribbean, Ethiopia, Ghana, Kenya, Morocco, and Vietnam) with South Africa in process.
- Revised and finalized log frame and RF for Kenya Climate Venture Facility.
- Data reporting templates for CTP Global components and CICs to use in reporting their results on a quarterly basis.
- Designed and built data model and data dictionary for online data collection templates and process covering more than 200 variables and attributes.
- Designed and built online dashboard prototype to be tested with internal, external stakeholders.

## **KEY LESSONS LEARNED**

- As a precursor to data collection and aggregation efforts, tactical steps should be taken to first identify and garner buy-in from stakeholders who could assist in driving critical inputs, while ultimately benefiting from outputs derived. That is why gathering an assortment of insights across various teams spanning CIC management, CIC-supported businesses, the CIC Network team, Access to Finance, and the World Bank Climate team was a critical step. These contributing resources came together to set the foundation, standards, and requirements under which this data framework and collection process was built.
- A clear mutual understanding should be established through dialogue with CIC client businesses as to how to incentivize them to report to the CICs regularly on their firm-level financial and non-financial data. Apart from having a clause in the agreement between a CIC and its supported businesses on regular firm-related data collection, it would also help to get feedback from the businesses in terms of what is in it for them and what do they want to get in return for the regular data reporting.
- Businesses at different stages of development expressed different needs in terms of what they want in
  return for the data they provide. For example, businesses in the ideation stage expressed the need for
  a brief (one- to two-page) profile of their own business. More advanced businesses required a more indepth look that would match them with or compare them to similar business in the CIC Network and
  within their business ecosystems.
- Operational lessons from the field—specifically, the Ethiopia and Kenya CICs—contributed significantly in helping other CICs in setting realistic operational and supported businesses' targets

#### FY17 WORK PLAN

On the data collection and reporting front, the Impact team will continue to roll out and reform the data collection process on a quarterly basis. This will be done primarily by close monitoring of the data collected via the eight online forms and to ensure quality and consistency, and by making adjustments, as needed, in the data collection templates.

The Impact team will consult with the CICs to continue refining the online dashboards to ensure they provide the centers with the metrics they need to measure their performance in terms, including the quality and effectiveness of their service providers in delivering highly impactful and needed services for client businesses at different stages of their development.

The Impact team will design, develop, and test an incentive-driven, web-based platform prototype encompassing the online dashboards and other elements. The goal would be to support and incentivize the CIC Network in two ways:

- To support the CICs in measuring their performance and making strategic decisions concerning their business model and their way forward.
- The encourage the CIC-supported businesses to continue sending their firm-level data to the CICs on a regular basis, enabling the generation of a sequential database that helps in measuring their growth and assessing and exploiting the potential of the business ecosystem in which they operate.

The robust data collection mechanism being rolled out across the CICs and the capture of baseline data for both accepted and rejected businesses seeking incubation services, will form the basis for the Impact team's preparation (working closely with internal and external partners) of a robust impact evaluation plan to be carried out toward the end of the CIC funding cycle.

In collaboration with CTP partners, the Impact team will draft the terms of reference for a mid-term evaluation of the global CTP to be carried out by a consulting firm toward the end of FY17.

Key Milestone	Expected Date
Roll out online data collection process across all operational CICs	Q2 FY17
Develop and fine tune online dashboards for multiple stakeholders (CIC Network, CICs, businesses)	Q3 FY17
Design, develop, and test prototype for web-based incentive-driven platform supporting businesses and CICs	Q2 FY17
Plan CIC impact evaluation	Q3 FY17
Develop terms of reference for proposals for consulting firm to conduct mid-term evaluation for CTP program	Q4 FY17

#### Impact Team Meets Challenge of Back-Filling Data on Climate Incubation

One of the biggest challenges the Impact team faced in FY16 concerned how to standardize rigorous data collection for climate innovation centers that have been operational for a number years. The Ethiopia and Kenya CICs, which have incubated scores of clean-tech entrepreneurs and businesses over several years of operations, were the focus of the problem because they had already established their own (different) ways of capturing operational and firm-level data.

The team's goal was to establish a uniform data collection process for both the new and long-established CICs. Initial discussions with the CEOs of the centers showed a promising degree of consensus in support of a standard set of results as well as indicators. Only when the team mentioned the need to collect standard data retroactively back to CIC inception did the scope of the challenge fully emerge. The CEOs knew that meeting the request for data would require getting in touch with their portfolio businesses and asking them to compile and report (and, in some cases, generate from scratch) the missing baseline data.

Initial reluctance turned to cooperation when the team , the CICs and their client businesses identified how they could benefit from the exercise. CIC managers grasped the value of being able to correlate client business progress with the history of services that the CICs provided. With the full cooperation of the CEOs of the Caribbean, Ethiopia, and Kenya CICs, and the dedicated participation of their M&E staffs, the team commenced the data-collection effort with back-to-back missions that brought together 17 out of ECIC 39 businesses and 32 of KCIC's 127 businesses. This marked a promising start to the effort to fill in the data gaps of incubatee businesses and educate them on the importance of reporting back to CICs on a regular basis and why the data is needed. The dialogue led the team to modify the front end of the online data collection forms to make them country- or context-specific. For businesses that did not attend in person, CIC staff shared the forms to fill in and return.

The Impact team is working closely with the CIC staff to finalize the exercise by the end of the FY16, so the new data collection process can go into effect at the beginning of FY17.

# COMMUNICATIONS

## **OVERVIEW OF PROGRESS**

In FY16, the Climate Technology Program (CTP) has consolidated its positioning within the global aid architecture as one of the leading programs in clean technology incubation. The communications strategy supporting CTP focused on promoting the program's global reach, as well as the results achieved at the local level in the seven countries with active climate innovation centers (CICs). A variety of communications tactics—publications, online channels, events, and partnerships—has been implemented to engage key stakeholders around the program's mission, in particular the '*What*,' '*How*,' and '*Why*' that define its activities:

#### WHAT:

CTP supports local clean-tech companies in developing economies to commercialize and scale innovative business solutions to climate change. The program creates sustainable job opportunities while also providing benefits such as access to affordable and clean energy, access to clean water, and climate-smart agriculture.

#### HOW:

Through a global network of innovation centers, CTP provides small and medium enterprises around the world with the knowledge, capital, and access to market required to launch and scale their businesses.

#### WHY:

Climate change and poverty are inextricably linked. Without rapid, inclusive, and climate-smart development, climate change could contribute to an additional 100 million people living in poverty by 2030. Investments to address climate change are not only essential to addressing the environmental challenge but also instrumental in fostering economic development and job creation. Young and small enterprises in the clean-technology sector in developing countries have the potential to tap into a global market estimated to reach \$1.6 trillion over the next decade.

Under this strategic approach, the program successfully launched new publications and knowledge products, and strengthened its online presence, while also organizing high-level events and co-marketing initiatives with leading institutions in the clean-technology space.

## **HIGHLIGHT 1: PUBLICATIONS**

#### Connecting Green Entrepreneurs: Implications for Public Program Design

The study '**Connecting Green Technology Entrepreneurs: Implications for Public Program Design'** was published at the end of May with a launch event and a targeted online campaign. The dissemination strategy received cross-support from multiple World Bank units as well as prestigious institutions in the entrepreneurship and clean-tech space, such as the Kauffman Foundation and the Aspen Network of Development Entrepreneurs. As of June 14, just two weeks after the launch, the study was viewed more than 750 times. The promotion of the publication and included several tactics, including:

- Web promotion: the report was prominently featured on WBG's knowledge catalogue and external website (home page of the Competitiveness section). The study was also highlighted on the infoDev website through a dedicated publication page.
- **Email distribution**: highlights were sent through an email campaign targeting key institutions in the cleantech space, as well as the internal WBG Trade & Competitiveness Global Practice monthly newsletter and infoDev's Newsflash (13,000 subscribers).

• Social media promotion: the report was disseminated through infoDev and WBG's Twitter and Facebook channels. The Twitter and Facebook campaigns generated 13,500 impressions and 15,000 likes respectively, and reached a total of 240,000 people in less than two weeks.

## **HIGHLIGHT 2: ONLINE PRESENCE**

Online media viewership on infoDev.org and related social media channels grew significantly. Here is a summary of the key performance indicators adopted for web and social media presence:

#### Web:

- Page views have increased from 96,841 in the first quarter of 2015 (July September) to 200,871 in the last quarter recorded (February through April), an increase of 107 percent.
- Peak monthly page views were 81,964 in March 2016.
- Unique visitors increased from 48,139 in the first quarter to 51,396 in the last.
- FY15 total page views are projected to significantly improve upon the previous year, with 444,564 (July 2015 to mid-May 2016) compared to 365,641 (July 2014 to June 2015).

#### Social Media:

- Facebook followers increased by 65 percent between July 1, 2015, and mid-May 2016.
- Twitter followers increased by 18 percent between July 1, 2015, and mid-May 2016.
- As of mid-June 2016, the total social media following is 21,278: Facebook (8,500), Twitter (14,100), and LinkedIn (1,940).
- Four videos featuring clean technology entrepreneurs in Kenya received a total of 300,521 views on Facebook and YouTube.



## **HIGHLIGHT 3: PARTNERSHIPS and LAUNCH EVENTS**

## 1776 Challenge Cup Nairobi

The Climate Technology Program teamed up with internationally renowned business incubator 1776 to host in Nairobi the Regional Challenge Cup 2016, a global pitching competition designed to find, fund, and promote highly scalable startups with transformative solutions in agriculture, transportation, health and energy. The event showcased both the city's most compelling startups and the companies that advanced from the local competitions held across the continent—Accra, Addis Ababa, Casablanca, Harare, Kampala, Lagos, and Pretoria—with the support of the CICs' global network. The joint event was used to strengthen the brand association between CTP and cutting-edge institutions in the incubation space, as well as a regional platform to promote the services offered by the CIC global network. Online, **the articles** and **blog posts** dedicated to the initiatives were viewed over 1,500 times, while the live tweeting of the event through the infoDev's Twitter account generated 12,000 impressions.





## **HIGHLIGHT 4: LAUNCH EVENTS**

The launch events for the Vietnam and Ghana CICs were used as a platform to engage local stakeholders and promote awareness around the Climate Technology Program internationally. By leveraging the media reach of local and regional World Bank offices, the events attracted significant attention at the national level and generated considerable media coverage and online engagement.

The Vietnam CIC launch event was highlighted in several local and international newspapers, including prominent Vietnamese media outlets as well as on blogs and online media. The VCIC Twitter account increased its followers by 30 percent; the press release and the dedicated webpage **www.infodev.org/vcic** generated 500 views, while on the infoDev's social media channels the live tweeting of the launch received more than 4,000 impressions in less than 24 hours.

**The Ghana CIC launch** event was attended by more than 100 people, including bloggers and journalists representing regional and national print and broadcast outlets. Julius Debrah, chief of staff of the Office of the President, and John Kufuor, UN special envoy for climate change, gave opening remarks and participated in a panel discussion during the official ceremony. Their participation resulted in extensive media coverage at the national level of the newly established center. Much of the coverage focused on the key role played by CTP in the global effort to fight climate change and promote economic development. Online, **a dedicated feature article** on the World Bank homepage along with a Bank-wide social media campaign targeted stakeholders at a regional and country level, generating more than 14,000 impressions on the day of the event alone. To capitalize on the coverage received, a Facebook campaign was launched across the region to promote a video showcasing the center and its services; the ongoing campaign wais expected to result in more than views by the end of the FY16.

## **FY17 WORK PLAN**

Building on the communications results achieved in FY15 and infoDev's growing online reach, the communications strategy for FY17 aims to publicize the impact of CTP and establish the program as the partner of choice for supporting clean technology entrepreneurs in developing economies. With growing expectations regarding the climate agreements achieved in Paris, activities in FY17 will present several communications opportunities. During the UN Climate Week, the World Bank Group Annual Meetings, and the next UNFCCC round of negotiations in Morocco, opportunities abound to promote the CTP narrative on a global scale. The CTP is well-positioned to support the climate priorities of the World Bank Group and its partner organizations by championing low-carbon economic development with grassroots data, local insights, and entrepreneur stories.

#### Visibility for the Donors

All official communications materials (press releases, publications, brochures, posters, agendas, PPT presentations, and so forth) relating to CTP will acknowledge the contribution by donor governments, in accordance with Bank corporate communications guidelines.

All events organized by CTP and its implementing partner organizations (such as the CICs) will also display the donor support.

A donor visibility guideline, aligned with Bank corporate guidelines, will be implemented for all colleagues and partners working on CTP activities. To take full advantage of the upcoming opportunities, the CTP's communications and outreach strategy will be refined both on the content and media approach.

The content strategy will focus on: i) raising awareness around the services provided by the centers and the role of CTP within the global community of clean technology entrepreneurship; and ii) documenting the lessons learned and the results achieved by the program at a global and a local level, as well as highlighting the transformative potential of the business solutions being incubated through the network.

The media strategy will focus on engaging key stakeholders by expanding and strengthening the four channels identified in FY16. Knowledge products and publications highlighting lessons learned and key insights will be utilized to target practitioners, academia, and internal Bank Group audiences. Events and online media have proved an effective and cost-efficient tool and will remain key to engaging with an external general audience during FY17, Lastly, partnerships and co-marketing initiatives will play a key role in strengthening CTP brand awareness and recognition among the wider clean-technology entrepreneurship and climate change communities.

The strategy will also strengthen outreach at a local and national levels in CIC countries. This communications support is vital to building support for the climate incubation centers across government, business, consumer and other constituencies. As part of this effort, it is important for in-country partners (for example CICs, business and economic development groups, and other partners on the ground) to document and communicate beneficial impact of CTP-supported activities. To this end, infoDev will work closely with World Bank Group Country Offices and local partner organizations on coordinating communications activities.

#### **Communications tactics**

• Entrepreneur profiles and videos have consistently been popular features for drawing readers and viewers to the infoDev website. CTP will publish quarterly entrepreneur profiles along with high-quality videos, and will support the promotion with a small budget for targeted social media campaigns—each \$100-200 campaign has added roughly 500-1,000 followers to the infoDev Facebook page and driven an average of 200,000 additional viewers to promoted CTP content.



- Live Q&A and webinars address high demand for business incubation training and lessons learned from the wider clean-technology community. CTP will position its team and entrepreneurs as experts and will disseminate knowledge to the wider community. CTP will schedule Twitter Q&As and webinars with leading entrepreneurs or business incubator managers (for example: the Nigerian women's incubator, "She Leads Africa" hosts popular webinars on topics from crowdfunding to launching a freelance career).
- Toolkits and practical guides help establish CTP as a source of on-the-ground expertise. CTP will publish
  and promote brief, reader-friendly guides focused on a specific challenge faced by entrepreneurs and
  business incubator managers. In doing so, CTP aims to disseminate knowledge to the wider development
  community and multiply its impact and reputation.
- Joint events and publications organized in collaboration with partners such as global incubator 1776 and the U.S. Department of Energy's ARPA-e network of incubators will raise the profile of CTP and supported entrepreneurs while also providing opportunities to learn from and associate other leading organizations in the climate innovation space.
- Website redesign will address elements of the current website that are dated and lag behind those
  of the fellow development agencies. A revised website will inspire greater confidence from potential
  government and private sector partners by reflecting the kind of technical innovation and modernity
  that CTP itself fosters. CTP will consider a targeted web redesign to better showcase key messages,
  frequently-asked questions, and significant publications and results stories.
- Social media presence will remain a priority for continued program investment aimed at growth of
  its Twitter and Facebook accounts, engagement with international media outlets and social media
  influencers, and to connect with and build on other climate-related social media campaigns (for
  example, Connect4Climate and WBClimate). CTP will also continue to develop and improve the infoDev's
  newsletter, now reaching more than 13,000 subscriptions.

# Chapter 6: Results Framework

## **Programmatic Results Framework**

#### Table 2: Aggregate performance indicators for 5 CICs

Performance Indicator	FY16 - Targets	FY16 - Results	FY17 - Targets
Impact			
Number of people with improved access to modern energy	179,475	396,901	136,308
Number of people with improved access to clean water	8,713	28,112	8,725
CO2 emissions avoided (metric tons)	41,714	27,376	43,573
Outcome			
Private finance leveraged	\$615,000	\$1,454,094	\$2,400,000
Number of new direct jobs created	282	422	581
Number of new direct jobs created for women	144	215	296
Number of businesses supported	85	118	165
Number of businesses receiving grants	35	15	56
Number of businesses/entrepreneurs having access to technical facilities	28	41	53
Number of businesses who raised early stage finance	3	2	20
Number of businesses who raised growth stage finance	2	10	14
Number of businesses supported that are women-led	21	30	41
Number of low carbon/energy efficiency technologies supported (units installed)	328,127	411,444	331,993
Number of new laws/legislations/amendments/codes/government policies/ministerial decrees <b>drafted</b> , or contributed to the <b>drafting</b>	2	1	6
Output			
Number of knowledge sharing events	15	20	27
Number of knowledge products developed	53	86	71

#### **Assumptions:**

- Q4 results at Programmatic Level are based on projections by TTLs as of early June 2016. These will be updated with actual results after the end of the FY.
- Q4 results at the CIC level are based on the average of results from Q1, Q2, and Q3. These will be updated with actual results after the end of the FY.
- Individual CIC tables reflect all targets and results for that CIC (no reduction for attribution).

- Ghana CIC and Vietnam CIC FY16 results for Q4 are assumed to be equal to FY16 targets for Q4 (since no results reported in earlier quarters, we cannot use an average of previous results for Q4).
- Aggregate CIC table reflects all targets and results for all CICs (no reduction for attribution, all CICs included at 100%). Aggregate table includes 5 CICs, including non-operational CICs (MCIC and SACIC are not included since they have not set any targets for FY16 or FY17 yet).
- Assume 51% of jobs created are for women; and 25% of businesses served are women-led. FY16, gender disaggregated results were calculated based on standard assumptions of 51% of jobs created are for women and 25% of businesses served are women-led. Starting in FY17 with a new data collection plan, gender disaggregated results going forward will be collected directly and reflect actual figures.
- Targets for number of businesses supported (and all indicators) are not cumulative and reflect number of businesses served in each year. However, this means that if an individual business receives services in more than one year, it would be counted in each year. In other words, the results reflect total number of businesses supported in a given year, not unique businesses across all years.
- Impact indicators: 1) Assume 50% of units sold are to households (B2C). KCIC and ECIC use their own assumptions in setting these targets; 2) Low carbon technologies calculation varies by CIC, depending on expected breakdown of products supported.

#### Table 3: Indicators

Program	Indicators	FY16 - Targets	FY16 - Results	FY17 - Targets
Outcome				
Insight	Number of organizations, financial institutions, initiatives, programs leveraging tools/knowledge/ models developed by the global program	0	0	0
	of which WBG follow up intervention	0	0	0
	Number of Climate Innovation Centers established in developing countries	0	0	0
Launchpad	Public finance leveraged for CIC implementation	\$0	\$0	\$0
	Public finance leveraged for CIC business plan development	\$230,000	\$TBD	\$230,000
Output				
Finance Lab	Number of pilots conducted	0	1	1
	Number of countries in which a Finance lab service has been deployed	1	1	1
	Number of potential financiers engaged on innovative financing mechanisms	0	0	3
	Number of lessons learned reports produced	0	1	3
	Number of Finance Lab financial partners and % reporting satisfied or very satisfied with the Finance Lab partnership in terms of quality, timeliness, effectiveness and follow on support	0	0	2
		0%	0%	65%
	Number of M&E frameworks developed	1	2	0
Impact	Number and % of CTP supported business enablers	5	0	0
	using and acknowledging that the monitoring system is a useful decision-making, learning and management tool	80%	0%	0%
	Number of CIC staff trained on results based monitoring	2	6	0
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Insight	Number of knowledge sharing products developed for Cross-CTP	5	8	6
	Number of strategic partnerships between CTP in collaboration with external bodies to produce and disseminate knowledge and research products	1	4	1
	Number of learning and knowledge sharing events conducted for cross CTP	2	6	2
Launchnad	Number of countries investigated for CIC feasibility	6	8	6
	Number of stakeholder-driven CIC business plans developed	0	0	10
	Number and % of Launchpad stakeholders expressing	0	0	0
	preparedness/readiness to implement CIC	0%	0%	0%
	Market Connect design criteria identified	0	0	0
	Number of countries in which a Market Connect service has been deployed	1	1	2
Market	Number of local partners identified	2	3	4
Connect	Number of pilot activities	2	3	4
	Number and % of Market Connect stakeholders/	0	0	1
	with CTP support received in terms of quality, timeliness, effectiveness and follow on support	0%	0%	80%
- Network	Number of CIC network partnerships with regional and global incubation and climate tech partners	5	5	3
	Number of training events for CIC to build their capacity on network standards	2	4	2
	Number of CICs trained	7	7	0
	Number of CICs meeting network standards: Effective governance structures/ Articulated business plan and model/ Adequate staff/ Partnerships with other service deliverers	0	0	7
	Number of CICs and % reporting satisfied or very satisfied with CIC network support received in terms	0	0	5
	of capacity building and experience sharing quality, timeliness, effectiveness and follow on support	0%	0%	71%

The CIC network component under the CTP Global program continues to provide support to CICs. Below are the output/outcome/impact level indicators that are part of the CTP Global RF with the % attributions.

#### Table 4: CTP Global contribution to the 5 CICs' performance indicators

Performance Indicator	FY16 - Targets	FY16 - Results	FY17 - Targets
Impact			
Number of people with improved access to modern energy	5,535	7,436	14,049
Number of people with improved access to clean water	541	1,054	641
CO2 emissions avoided (metric tons)	2,436	1,027	5,002
Outcome			
Private finance leveraged	288,942	108,729	318,382
Number of new direct jobs created	21	22	54
Number of new direct jobs created for women	11	11	28
Number of businesses supported	12	19	13
Number of businesses receiving grants	10	0	6
Number of businesses/entrepreneurs having access to technical facilities	8	7	10
Number of businesses who raised early stage finance	3	1	3
Number of businesses who raised growth stage finance	2	1	2
Number of businesses supported that are women-led	3	5	3
Number of low carbon/energy efficiency technologies supported (units installed)	1,999	1,714	3,059
Number of new laws/legislations/amendments/codes/ government policies/ministerial decrees <b>drafted</b> , or contributed to the <b>drafting</b>	0	0	1
Output			
Number of knowledge sharing events	7	3	7
Number of knowledge products developed	2	2	3

# **Chapter 7: Financial Information**

# **OVERVIEW OF PROGRESS**

Table 5: Summary of the donor contributions to the Climate Technology Program Trust Fund TF071681 as of end FY16

Cantributiana bu	Expected Commitments		Received as of FY16		
Programs	('000 donor currency)	(USD '000)	('000 donor currency)	(USD '000)	
Kenya					
DFID	4,000 GBP	6,344	4,000 GBP	6,344	
Danida	50,000 DKK	9,073	50,000 DKK	9,073	
Ethiopia					
DFID	3,000 GBP	4,713	3,000 GBP	4,713	
Norway via DFID	4,200 GBP	6,307	4,200 GBP	6,307	
Vietnam					
DFAT	3,150 AUD	2,911	3,150 AUD	2,911	
DFID via DFAT	2,699 AUD	2,462	2,699 AUD	2,462	
Ghana					
Danida	66,700 DKK	11,066	66,700 DKK	11,066	
Netherlands	4,000 USD	4,000	2,265 USD	2,265	
Global					
DFID	15,600 GBP	22,571	6,600 GBP	10,781	
TOTAL		69,446		55,921	
Climate Technology Program (CTP)		FY16 Budget	FY16 Disbursements	Disbursement Rate	
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CTP Trust Fund - Program Activities					
CICs	Kenya CIC	195	231	118%	
	Kenya CVF	250	193	77%	
	Grants to Kenya CIC	959	959	100%	
	Grants to Kenya CVF	300	213	71%	
	Ethiopia CIC	285	249	87%	
	Grants to Ethiopia CIC	1,200	1,037	86%	
	Vietnam CIC	200	217	109%	
	Grants to Vietnam CIC	400	450	113%	
	Ghana CIC	315	405	129%	
	Grants to Ghana CIC	500	1,000	200%	
	Morocco CIC	70	67	96%	
	CIC Network	765	884	116%	
	TOTAL CICs	5,439	5,712	105%	
Global	Launchpad	1,777	1,830	103%	
	Finance Lab	220	309	140%	
	Insight	300	264	88%	
	Market Connect	553	431	78%	
	Impact	310	214	69%	
	Global Program Design & Coordination	100	114	114%	
	TOTAL Global	3,260	3,163	97%	
Others					
Communications and Knowledge Dissemination		250	256	102%	
Program Management		530	431	81%	
TOTAL		9,479	9,754	103%	

## Table 6: FY16 CTP Trust Fund Budget and Disbursements (USD '000)

# FY17 WORK PLAN

## Table 7: Climate Technology Program (CTP) proposed FY17 budget envelope (USD '000)

Climate Technology Program (CTP)		Budget FY17
Program Activities		
CICs	Kenya CIC	300
	Kenya CVF	310
	Grants to Kenya CIC	N/A
	Grants to Kenya CVF	1,000
	Ethiopia CIC	400
	Grants to Ethiopia CIC	1,000
	Vietnam CIC	80
	Grants to Vietnam CIC	1,500
	Ghana CIC and CVF	280
	Grants to Ghana CIC	500
	Morocco CIC	0
	CIC Improvement / Network	1,200
	TOTAL CICs	6,700
Global	Launchpad	3,000
	Finance Lab	280
	Insight	950
	Market Connect	850
	Impact	500
	Global Program Design & Coordination	100
	TOTAL Global	5,680
Others		
Communications and Know	ledge Dissemination	300
Program Management		500
TOTAL		13,180

# Annex

# CTP COMPANY PORTFOLIO REVIEW

#### Introduction

At the beginning of FY16, the infoDev Monitoring &Evaluation (M&E) team launched a comprehensive initiative that aimed at systematically designing and building a robust monitoring system for climate innovation center (CIC) activities and supported businesses. The initiative's intended goal was to provide a better understanding of the CIC operational model and the progress of their client businesses, as well as insights into strategic decision making at network and CIC levels. An intensive data collection effort was undertaken to develop a foundational data framework enabling downstream analysis of various operational and business cases.

As a precursor to data collection and aggregation, the team sought to identify and garner buy-in from stakeholders who could assist in driving critical inputs and, ultimately, benefit from outputs. Participants enabling this report come from teams spanning CIC management, CIC-supported businesses, the CIC Network team, Access to Finance, and the World Bank climate team. These contributing participants collaborated in setting the foundations, standards, and requirements under which the data framework was built.

Stakeholders agreed on foundational aspects such as scope, meta-data definition, data model structure and management. The M&E team then performed an array of tasks to standardize and normalize disparate sets of data into a functional dictionary of attributes feeding downstream analytics. The data collection—conducted through online web forms—produced a core of approximately 200 elements that have been centralized in a framework providing new insights and transparency.

The next step involved defining preliminary metrics of success and key performance indicators that would highlight value of the monitoring system. The team consulted international and regional incubators, accelerators, and reports produced by ANDE and other research organizations, and held in-depth discussions with the data and analytics departments of Endeavor and Acumen to develop data representations that would stimulate desired changes in program or client business performance.

#### **Data Collection**

Having developed a baseline of implementation requirements, the team conducted a gap analysis to ensure standardization in data availability and collection. Back-to-back missions to Kenya and Ethiopia brought the M&E team together with the respective CIC staffs in those two countries for meetings with client businesses aimed at closing the gaps in the data available through the initial application stage and the data that would flow from the proposed framework. The discussions ensured a common understanding of the data businesses would be expected to provide, the terminology to be used, and the data inventory to be maintained for all CIC clients so that progress could be readily monitored.

Through a two-day workshop in Ethiopia in February 2016, the M&E team met with 17 of the 39 ECIC client businesses. Some of the companies unable to participate provided information via the online web form. Eventually, ECIC collected inputs from all participating businesses. In Kenya, the workshop (also in February) yielded on-site meetings between the M&E team and 32 of KCIC's 126 client businesses. Six additional businesses briefed by phone on the data collection process and asked to complete the online form. An additional 10 KCIC business contacted after the workshop submitted requested information. In all, the two workshops and follow-up contacts generated detailed data from 53 percent of ECIC and KCIC client businesses. The workshops, and the gap analysis that followed, generated baseline-to-date information on all current KCIC and ECIC businesses encompassing data on a range of topics including founders, business operations, products and services, and financial health.

### **Data Analysis**

The following section mines the collected data to describe key attributes of KCIC and ECIC client companies using the most complete and best quality data, and the data most relevant to presenting a clear portrait of the KCIC and ECIC portfolios.

#### **Companies by Sector & CIC**

The 165 KCIC and ECIC companies span the eight sector classifications listed below. (The energy efficiency sector is not covered in the analysis because none of the company data reflected products or services in this sector.)

- Agriculture, forestry, fisheries
- Food & beverage
- Renewable energy (electricity/heat; solar, wind, biomass, hydro, geothermal)
- Services
- Solid waste
- Transportation
- Water and wastewater
- Other

*Exhibit 1* shows that across both CICs, the renewable energy, food & beverage, and agriculture, forestry, and fisheries sectors account for 97, 19, and 16 companies, respectively, with the total company count from these three sectors comprising 80 percent of businesses supported by ECIC and KCIC. Given the prevalence in the region of climate technology products such as solar cells, biofuel, biodiesel, and briquettes, the dominance of the renewable energy sector in the CIC businesses was not surprising.

*Exhibit 2* further breaks down companies by sector and incubator, providing a slightly different view of sector rankings across the two centers.





#### **Company Age Distribution**

The age distribution of client companies can provide insight into the type of businesses that seek CIC support, their success potential once their development stage is determined, as well as the mix of incubation services they need.

*Exhibit 3* provides an age profile of KCIC and ECIC client businesses. KCIC businesses range from one to nine years of age, with the largest subset in the three-year age range. The ECIC histogram reveals a less uniform age distribution, with the largest spike in the two-year age range.

An important difference between the KCIC and ECIC company age distribution—one that *Exhibit 3* does not show—is that while there is no record of ECIC companies older than 10 years old, seven KCIC client companies had been in business for more than a decade. This group of more mature companies was intentionally omitted from *Exhibit 3* due to age inconsistency within the group. Nevertheless, this insight warrants investigation to determine why a business that has been operational for more than 10 years is seeking incubation services. The number of older clients in KCIC may point to a market opportunity for the CICs in serving mature as well as new companies.



#### **Current Company Development Stage**

Knowing a company's current stage of development is an important aspect in determining its short- and longterm goals, the services it needs to achieve those goals, and its motivation to continue engagement with a CIC. Currently, CIC business development stages are classified into four types:

- Ideation: Company has an idea or concept for product or service but has yet to produce a prototype.
- R&D: Company is producing or preparing to produce a prototype product or service.
- Testing: Company is testing the prototype in preparation for commercialization.
- Commercialization: Company is manufacturing its final product or service and selling it on the market.

*Exhibit 4* makes it clear that the vast majority of KCIC member businesses (91 percent) are in the commercialization stage, while ECIC business are more evenly distributed across various stages of development. Understanding how the current distribution of client business development compares to the development stage of clients at the time they enroll in a CICs is important in determining the effectiveness of the incubation services in helping clients advance through these development stages. This will be further explored below in the Key Takeaways section.



#### **Revenue Generation**

A threshold question in evaluating a startup is whether the young company has been able to achieve "productmarket fit," that is, the ability to build and sell something that meets a particular market demand, with customers willing and able to pay for the product or service. Once a business is "post-revenue," revenue growth becomes the next important factor in determining its potential to grow under the current way of doing business. Because the M&E team is still at an early stage of data collection for revenue growth, the ability of a business to generate revenue, that is, to achieve post revenue status, will be the focus here.

*Exhibit 5* shows that the majority of KCIC clients are at the post-revenue stage, confirming the claim by most KCIC clients that they are at the commercialization stage. ECIC's diversity of company development stages, with many businesses still in the R&D and testing stages—aligns with the predominant share of ECIC businesses being at the pre-revenue stage, as shown in *Exhibit 6*, and with their median revenue at a modest \$10,000, compared to KCIC's median revenue of \$25,000.



#### **External Funding**

Funding is the fuel on which a business runs. A business without a funding source will flounder under the weight of its own debt. Business have options in how they attain funding, and can use more than one option at a time. The chosen funding plan will depend a business's tolerance for debt, the solvency of its founders, and on the amount of capital the business needs to launch and maintain itself through the early stages of development.

KCIC members have demonstrated a keen ability to raise external funding from a variety of sources. As conveyed in *Exhibit 7*, 89 percent of external funding raised by KCIC members was generated from three sources: nonprofits and government agencies, venture capital firms, and KCIC grants. These findings are sure to influence future efforts to zero in on funding sources for CIC client businesses. It should be noted, however, that venture capital funding, while the second largest contributor to overall funding (\$6.6 million, or 35 percent of the total), was provided to only four businesses. Most of the KCIC client businesses—92 percent—did not access, or were not able to access, venture capital funding, pointing to an important area of focus for KCIC to secure more funding for its high-potential companies.



In examining the state of external funding for ECIC member businesses, a significantly different funding construct emerges. As conveyed in *Exhibit 8*, the total amount of funding provided to ECIC members (\$0.78 million) was a fraction the funding KCIC members were able to secure (\$18.3 million). ECIC member funding is limited to three sources, with ECIC grants constituting the largest amount at \$0.6 million, with only \$0.23 million in external funding raised through the nonprofits and government organization category. Differences in total number of client companies and in their respective stages of development likely account for the wide variance in funding.



#### **Key Takeaways**

The previous section provides a data-centric overview of the state of affairs across a select few of the KCIC and ECIC dimensions. Moving forward, the M&E team, CIC management, and other relevant stakeholders should focus on filtering out "data noise" and "nice to know" information. Doing this will bring forth a focused view that identifies a specific set of key metrics and data views by which progress can be assessed, taking into account the most important aspects of CIC operations and member support while maximizing the desired impact in the CIC ecosystems.

In this section, three preliminary metrics and data views are presented to mark a starting point that should spur further discussion and explorations. The aim is to address the most relevant of data questions, namely, Which key metrics should be tracked, assessed, and acted upon? The team's goal is to refine, expand, and automate the mechanisms by which data is collected. This process will unfold as the team continues to revise and expand the current database in depth and breadth while adding qualitative context to what the data suggests.

#### **Metric 1: Business Stage Progression**

Tracking product and business movement through the ideation, R&D, testing, and commercialization cycle enables infoDev stakeholders to follow the progress of CIC clients from the time they a CIC. Gaining visibility into this process will point up the services and strategies that have been most effective in propelling clients through business development stages, creating what amounts to a reproducible roadmap for businesses that may lag behind.

Three key insights relevant to KCIC businesses emerge in *Exhibit 9*. First, since 59 percent of KCIC businesses were in commercialization at entry ("Insight 1"), the data provides no information about the rate of progression made by this group since joining incubator. For this group already in commercialization, progress must be measured through other metrics, namely, revenue generation and profitability. Second, KCIC has ushered 32 percent of its

businesses ("Insight 2") through various stages of development from entry to commercialization. Lastly, there is one instance of a client regressing from commercialization to testing ("Insight 3"), a case that warrants further investigation by the KCIC and CIC Network teams.



Similar analyses of ECIC client businesses makes clear that they follow a fairly uniform progression across the four stages of development. Like KCIC, ECIC has done well in guiding 22 percent of its clients to commercialization after onboarding ("Insight 1"). But unlike KCIC, and due to the diversity of stages among its member businesses at entry, ECIC particularly excelled at moving its client businesses to R&D and testing stages, the two largest groups ("Insight 2").



#### Metric 2: Profitability & Funding (Survival Rate)

Profits and external funding provide the monetary runway needed for businesses to remain operational until short- and long-term goals are attained. Separately examining these two metrics for CIC clients may yield a multitude of insights that help centers track member progress and support them in adjusting their trajectory. Examining both of these metrics combined, meanwhile, can provide a cohesive means by which CICs gauge their own performance. The matrices below provide a compact means to these ends. Before examining the figures, a brief description of the method by which information is configured would be helpful:

- Quadrant 1: Profitable businesses that have not been able to secure funding.
- Quadrant 2 (Survival Rate): Businesses that have neither turned profits nor secured funding.
- Quadrant 3: Unprofitable businesses that were able to secure funding.
- Quadrant 4: Profitable businesses that have secured funding.

As described in an earlier section, KCIC client businesses have been able to raise funding from a multitude of external sources. Combining this finding with member profitability, however, additional insights emerge. First, 52 percent of KCIC members that have received funding are not yet profitable—by far the largest cohort of businesses in *Quadrant 3* of *Exhibit 11*. This indicates that this group's founders have been successful in conveying their business vision to external investors without yet proving profitability. Secondly, 22 percent of businesses are neither profitable nor funded—the second largest group in *Quadrant 2*—signifying that KCIC management's immediate priority should be to promote these businesses from their current stage into one of profitability or funding (i.e., transition to *Quadrant 1 or 3*) as a first step to long-term success.



Despite funding levels for ECIC hovering around \$0.9 million, a similar pattern to that of the KCIC company portfolio emerges (*Exhibit 12*). The largest group of ECIC members reporting on the two metrics has been funded without being profitable (*Quadrant 3*)—another indication that this group of founders has been able to effectively convey their vision to external investors. Also, the second largest group has neither secured funding nor turned a profit (i.e., survival rate of 32 percent in *Quadrant 2*). This metric necessitates close monitoring and guidance by ECIC management to ensure the success of its members. Lastly, with no businesses belonging to the group of profitable, yet unfunded businesses (*Quadrant 1*), further examination of context may aid the ECIC team in testing a preliminary hypothesis around whether turning a profit leads rapidly to external funding for member businesses.



#### **Metric 3: Job Creation**

Job creation is a very important metric that should be tracked throughout the CIC member lifecycle. In addition to providing stakeholders with periodic insight into the number of jobs created, this data is key to understanding trends and identifying strategic correlations between job creation and other metrics such as stage of company development. This is a goal the M&E team will continue to pursue.

In *Exhibit 13*, the highest number of full-time KCIC hires (303) was generated from the renewable energy sector, encompassing the majority of KCIC-supported businesses ("*Insight 1*"). On the contrary, two of KCIC's largest sectors—agriculture and water—show job deficits as opposed to opportunity creation ("*Insight 2*").

Through closer data examination of these takeaways, two possible causes emerge. First, although nine KCIC companies comprise the water sector group, total jobs created by these members (three) was offset by a larger number of jobs lost (seven) by two companies in particular, for a net loss of four jobs in the water sector. The 13 agribusiness client companies produced a net loss of five jobs. While this might raise questions about the sector's overall job-creation potential, it is important to note that the net loss stemmed from one KCIC member business shedding 45 jobs.



ECIC's renewable energy sector emerged as a leader in job creation (*Exhibit 14*). This was to be expected given that it is the sector with highest number of members in the center's portfolio ("*Insight 1*"). The highest aggregate loss of jobs reported is within the solid waste sector, with nine members, the second largest cohort in ECIC ("*Insight 2*"). Further investigation of client job data within the sector revealed a lack of job creation across all client companies contributing to the overall deficit—with two members shedding a combined 12 jobs.







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