Climate Innovation and Center (CIC) Business Plan: Ethiopia

January 2012
Recap: Why a CIC in Ethiopia?

The Challenge:
New technologies are essential to reduce the long-term cost of climate change and achieve Green Growth in Ethiopia however many barriers remain.

The Solution:
A Climate Innovation Center (CIC) that finances and supports Ethiopian innovators, entrepreneurs and SMEs, can help overcome these barriers and assist in creating climate solutions that meet local needs.

The Outcomes:
Growing private sector opportunities in Ethiopia to mitigate and adapt to climate change will also be an important driver of employment and economic development.
Climate Innovation Centers

Key Success Factors:

- A coordinated and holistic approach to innovation
- Based on local context, market needs and opportunities
- Aggregates existing country initiatives
- Leverages public-private partnerships and resources
- Networked nationally and internationally facilitating collaboration
CICs fill gaps and complement existing downstream programs

**CICs**
Gap where promising developing country innovation languishes

**Existing Programs:**
Carbon finance, CIF/CTF, GEF, IFI lending
Some limited private sector

**Low-income IFI programs**
Local and some multinational private sector

**Commercial debt and public equity markets**
Multinational technology manufacturers

**Niche sustainable investors**
VC and other early stage private finance
Private technology innovators

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**Stage of Country Development**
- Developing
- MIC
- Industrialized

**Stage of Technology Development**
- Conceptualization
- Early-growth
- Scale-up
- Full deployment

**government**

**private sector**

**Multilaterals, IFIs**

**gaps in capacity**

Some basic research in MICs; results from developed countries can be shared at this level

Government and academic basic R&D

Government and other innovation programs (e.g., US SBIR)

Valley of Death

Some basic research in MICs; results from developed countries can be shared at this level

VC and other early stage private finance
Private technology innovators

Low-income IFI programs
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**CICs**
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Government and academic basic R&D

Some basic research in MICs; results from developed countries can be shared at this level

Government and academic basic R&D
Extensive six month+ process to develop Business Plan

Business plan development process: bottom-up 150+ stakeholders engaged

- **Stakeholder identification and outreach**
- **Sector mapping and tech prioritization**
- **Workshop 1: Gap & need identification**
- **Follow up: Quantitative analysis, 1on1 interviews**
- **Workshop 2: Model design**
- **Develop business plan with key stakeholders**

infoDev mobilizes a vast network of in-country partners including; private sector, government, financiers, NGOs, academia, entrepreneurs and incubators. (Sample of Ethiopian stakeholders)
Barriers cleantech ventures are facing in Ethiopia

- Country: Ethiopia
- Company: Eco-Green
- Entrepreneur: Kebede Lakew
- Clean Technology: Organic Liquid Fertilizer

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Solutions</th>
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</thead>
<tbody>
<tr>
<td>Lack of funding</td>
<td>Access to proof-of concept funds</td>
</tr>
<tr>
<td>Need for technology transfer</td>
<td>Center could offer entrepreneurs with a mechanism to transfer necessary skills and technology</td>
</tr>
<tr>
<td>Poor market promotion</td>
<td>Center could raise awareness of the market about the locally produced product and support promotional efforts</td>
</tr>
<tr>
<td>Lack of Quality Improvement (R&amp;D)</td>
<td>Center could offer facilities and deliver information and assistance in regards to continuous quality improvement</td>
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</table>
Barriers cleantech ventures are facing in Ethiopia

- Country: Ethiopia
- Company: G.E.M Engineering
- Entrepreneur: Girma Eshety
- Clean Technology: Wind Pumps and Wind Energy
- Employees: 27

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<tr>
<td>Lack of appropriate market</td>
<td>Raising Awareness and Creating Market Opportunities through the Center</td>
</tr>
<tr>
<td>Need for technology transfer</td>
<td>Center could offer entrepreneurs with a mechanism to transfer necessary skills and technology to design wind pumps and generators</td>
</tr>
<tr>
<td>Lack of Funding</td>
<td>Center can provide access to funds to aid in improving existing factory in Dukem and purchasing necessary machines</td>
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<tr>
<td>Lack of business skills</td>
<td>Center could offer entrepreneurs a network of qualified business mentors to work with</td>
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Technology Priorities of CIC

Evaluation Criteria

<table>
<thead>
<tr>
<th>Letter</th>
<th>Description</th>
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<tbody>
<tr>
<td>TR</td>
<td>Technology Readiness</td>
</tr>
<tr>
<td>MD</td>
<td>Market Demand</td>
</tr>
<tr>
<td>AF</td>
<td>Availability of Funding</td>
</tr>
<tr>
<td>RS</td>
<td>Clear, Ready Stakeholders</td>
</tr>
<tr>
<td>BM</td>
<td>Business Model</td>
</tr>
<tr>
<td>IR</td>
<td>Leverage of Indigenous Resources</td>
</tr>
<tr>
<td>EC</td>
<td>Entrepreneurial Capacity</td>
</tr>
<tr>
<td>WF</td>
<td>Workforce</td>
</tr>
<tr>
<td>PO</td>
<td>Policy</td>
</tr>
<tr>
<td>EI</td>
<td>Economic Impact</td>
</tr>
<tr>
<td>GI</td>
<td>GHG Impact</td>
</tr>
<tr>
<td>SI</td>
<td>Social Impact</td>
</tr>
<tr>
<td>AT</td>
<td>Already on Track</td>
</tr>
</tbody>
</table>

Stakeholder Feedback

Prioritized Technologies

1. Sustainable Agribusiness
2. Biofuels & mass
3. Transport-Tech
4. Micro Hydro
5. Energy Efficiency

3.2.1 Technology 1: Sustainable Agriculture (Agribusiness)

Main applications: new resilient crops and seeds, water/energy efficient machinery and equipment, water/energy efficient irrigation systems, climate friendly/energy efficient food processing, bio-pesticides and fertilizers, waste management, livestock and byproduct management, afforestation and sustainable land use practices.
Gaps identified include: Finance, Technology, Company, Markets, Policy

- Identify stakeholder needs to address the gaps
- Design solutions/activities to meet those needs
Example identified gaps: Technology Development

<table>
<thead>
<tr>
<th>Gaps</th>
<th>Needs</th>
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<tbody>
<tr>
<td>Lack of access to equipment and labs for testing and prototyping</td>
<td>Create partnerships with equipment and facility providers</td>
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<tr>
<td></td>
<td>Provide funding for proof-of-concept</td>
</tr>
<tr>
<td>Lack of access to international core technology and associated</td>
<td>Provide database for sourcing quality technology components</td>
</tr>
<tr>
<td>know-how</td>
<td>Provide access to a network of technical expertise</td>
</tr>
<tr>
<td>Limited coordination between industry and academia</td>
<td>Create and facilitate university and industry partnerships</td>
</tr>
<tr>
<td>Lack of technical skills and R&amp;D (due to theory-based universities</td>
<td>Partner with universities to provide specific training curriculums,</td>
</tr>
<tr>
<td>curriculums)</td>
<td>courses and seminars</td>
</tr>
<tr>
<td>Lack of awareness in climate technology demand (studies/research is</td>
<td>Provide mentoring and training services to final year engineering</td>
</tr>
<tr>
<td>not demand driven)</td>
<td>thesis students</td>
</tr>
<tr>
<td>Insufficient R&amp;D funding and standards</td>
<td>Help to benchmark Ethiopia regionally and internationally with R&amp;D</td>
</tr>
<tr>
<td></td>
<td>investment best-practice</td>
</tr>
<tr>
<td>Lack of finance using IP as collateral</td>
<td>Facilitate bank financing through providing appropriate guarantees</td>
</tr>
<tr>
<td>Difficulty in importing material (custom clearance, product</td>
<td>Coordinate with customs to provide updated product databases for</td>
</tr>
<tr>
<td>database outdated, material confiscated)</td>
<td>climate technology imports</td>
</tr>
<tr>
<td></td>
<td>Provide a channel for dialogue between innovators, SMEs and</td>
</tr>
<tr>
<td></td>
<td>government</td>
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<tr>
<td>Limited recognition of innovators</td>
<td>Recognize innovators through competition and award and opportunities</td>
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The Ethiopia CIC: Business Model

Access to Finance
- **Technology Adaptation Fund**
  - Proof of Concept Grants: USD25-75k

- **Innovation Catalyst Fund**
  - First-loss Equity: USD100-750k

Access to Mentoring
- **Mentor Networks**
  - Diaspora-Investor Network
  - Mentor Network
  - Annual Innovator & Mentor Awards

Access to Policy Support
- **Policy Advocacy**
  - Association Support
  - Policy Roundtable Series

Access to Information
- **Market Analytics**
  - Market and Sector Trend Reports

- **Technology Information**
  - Technology/IP database

- **Branding & Awareness**
  - CIC Outreach

Access to Regional Partners
- **Women and Girls**
  - CIC Activity Awareness
  - Women-led Business Outreach

- **Facilities**
  - University Partnerships
  - Facility Provider Agreements

- **International Collaboration**
  - Fellowship Program
  - National Climate Innovation Event
  - CIC Network Linkages

- **Investment Advisory**
  - Business & Financial Planning
  - Seminar Series

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- **Access to Information**

- **Access to Mentoring**

- **Access to Policy Support**

- **Access to Finance**

Include targeted gender programs
47% of the total 5 year budget is allocated to direct investments into high impact technologies.

USD 15.9m Ethiopia CIC budget breakdown:
- Tech Adaption Grants: 11%
- Catalyst Seed Fund: 36%
- Mentoring/Advisory: 6%
- Policy and Networking: 8%
- Information & Awareness: 8%
- Regional programs: 6%
- Core staff & overheads: 18%
- Global Network Participation: 7%

Ethiopia CIC budget breakdown for years 1 to 5:
- Catalyst Seed Fund
- Core staff & overheads
- Regional programs
- Tech Adaption Grants
- Policy and Networking
- Global Network Participation
- Information & Awareness
- Mentoring/Advisory

Center Sustainability: Replenishing 56% of entire costs and 100% of investment costs after year 7.
CIC Fund Investment Criteria

- Level of Innovativeness
- Technology priority for country
- Management experience
- Competitive advantage
- Market & growth potential
- Uniqueness of business model
- Quantifiable environmental benefits
- Impact on gender and social inclusion
CIC Fund Structure

Investee Climate Tech Companies

Other Private Investors

infoDev & Other Partners

Innovation Catalyst Fund

Other CIC Programs

Diaspora Networks

and/or

State Development Banks

50%

50%

Post-investment Services

Access to Facilities: Incubators and Networking Space, Facility Provider Agreements

Market Analytics: Market and Sector Trend Reports


Pre-investment Services

Investment Advisory: Business Planning, Financial Planning, Seminar Series

Technology Adoption Fund: Proof of Concept Grants: USD25-75k

Deal Flow

= Investment

= Return on Investment
CIC’s Innovation Catalyst Fund’s reflow waterfall provides 50% cushion to reduce financial risk to angel and bank investors

Returns:
Exits, sales, dividends, fees

Investors including Angels and Banks are repaid principal prior to CIC’s fund

Once CIC Fund is replenished, returns are split between investors and CIC host based on share of investment

Principal investment from Angel Investor/Bank

Principal investment from CIC Innovation Catalyst Fund

Bank/ Angel Investors

CIC Host (Other Programs)

Total principal investment amount in company

Total return on investment per company

CIC Fund Returns
## The CIC’s Long-term Impacts

### Environmental
- Mitigating up to 0.8M tons of CO2
- Providing up to 340M kiloliters of clean water to over 420,000 Ethiopians
- Providing increased energy access of up to 500M kWh, contributing to an installed capacity of over 120MW reaching an additional 265,000 people
- Improving agricultural yield for up to 120k small scale farmers

### Financial
- Providing finance, technical assistance & mentoring to up to 40 entrepreneurs at the proof-of-concept stage and up to 20 companies at the seed equity stage.
- Impact up to USD180m on economy over 10 years
- Economic rate of return on cost of project at over 100% and IRR on investments at 12%.
- Achieve up to 4.4x leverage on DFID contribution via cash and in-kind co-finance of the CIC and its investees

### Social
- Creating up to 12,000 jobs over 10 years at cost of less than USD 640 per job
- Creating 2,000 jobs for women and youth in the first 5 years
- Over 3,000,000 including women and girls less affected by affects of climate change
- Providing 430,000 with better/cheaper access to food
Implementation Timeline

**General Implementation Activities**
- Finalize business plan
- Finalize gender strategy
- Secure additional donor investment
- Form implementation team
- Implementation mission
- Implementation session for donors & Bank
- Informational Workshop in Addis
- Steering Committee Meeting

**CIC Host Selection and Contracting Process**
- Prepare and Clear CIC Host REOI & RFP
- REOI / EOI Submissions (4 weeks)
- Short listing (3 weeks)
- RFP to the short-listed firms (6 weeks)
- Selection (3 weeks)
- Agreement signing & negotiation (2 months)
- Begin disbursing financing

**Fund Manager Selection and Contracting Process**
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**CIC Establishment**
- Create monitoring & evaluation framework
- Establish legal structures, facilities, policies
- Set up Advisory Board
- Hire staff
- Develop & implement marketing campaign
- Opening ceremony
- Begin programs
Larger vision: CIC network provides mechanisms for collaboration

Company: WinAfrique
Country: Kenya
Product: Hybrid RE for telecom towers

Company: ElectroCell
Country: Brazil
Product: Fuel cells & batteries

Company: Craftskillz
Country: Kenya
Product: Off-grid wind turbines

Company: InnovLite
Country: India
Product: LED lighting

WinAfrique needs assistance in accessing regional markets for exporting

ElectroCell needs to locate manufacturing facilities in China

Craftskills needs to source low-cost LEDs to develop ‘turnkey’ solutions

InnovLite needs access to technologies & capabilities to lower costs of components

Activity of Global Network

- Knowledge Platforms ✔ ✔ ✔
- B2B Forums ✔ ✔
- Tech Transfer and collaboration ✔ ✔
- Demand aggregation ✔ ✔
- Sharing Best Practice ✔ ✔ ✔
- Competitions and A2F programs ✔ ✔ ✔ ✔