



CLIMATE TECHNOLOGY PROGRAM

Accelerating Innovation in the Development, Deployment and Transfer of Clean Technologies

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.

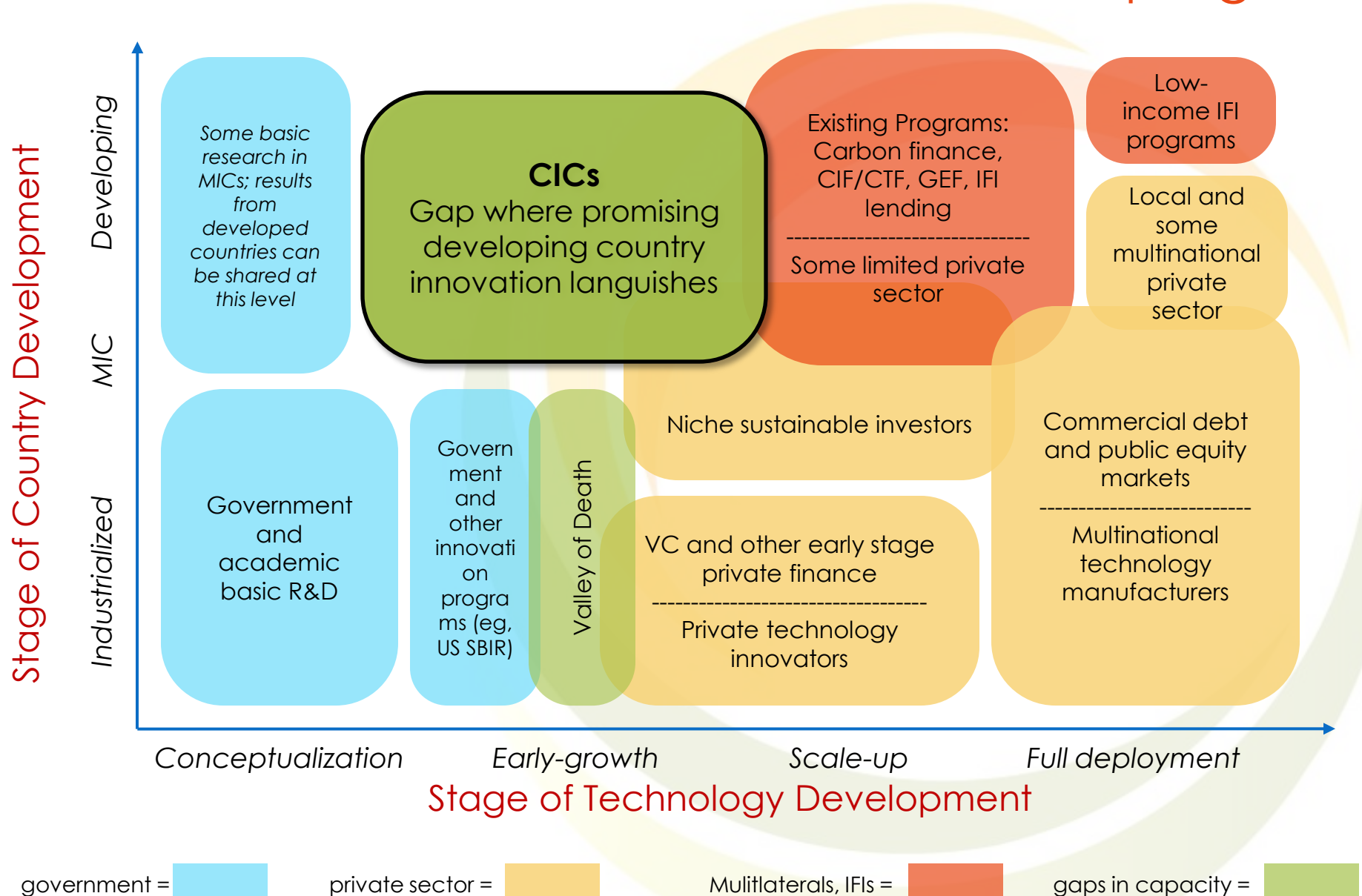
Climate Innovation Centers



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



Extensive six month+ process to develop Business Plan

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



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



Barriers	Solutions
Lack of funding	Access to proof-of concept funds
Need for technology transfer	Center could offer entrepreneurs with a mechanism to transfer necessary skills and technology
Poor market promotion	Center could raise awareness of the market about the locally produced product and support promotional efforts
Lack of Quality Improvement (R&D)	Center could offer facilities and deliver information and assistance in regards to continuous quality improvement



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



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

Technology Priorities of CIC

Evaluation Criteria

TR	Technology Readiness
MD	Market Demand
AF	Availability of Funding
RS	Clear, Ready Stakeholders
BM	Business Model
IR	Leverage of Indigenous Resources
EC	Entrepreneurial Capacity
WF	Workforce
PO	Policy
EI	Economic Impact
GI	GHG Impact
SI	Social Impact
AT	Already on Track

Stakeholder Feedback

2. Relevance of Innovation Centers in India (2 Questions)

* 1. Please answer these questions on a scale of 1 to 5.
(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

The discussion on climate innovation centers is important for developing technologies

	1	2	3	4
to tackle climate change	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
to promote job creation and economic development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
for social development and providing energy and resource needs to the poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 2. Please answer these questions on a scale of 1 to 5.
(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree)

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)

Score: 3.6/5.0

TR	MD	AF	RS	BM	IR	EC	WF	PO	EI	GI	SI	AT
M	H	M	H	M	M	M	M	H	H	H	H	L

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.

CIC Design Process

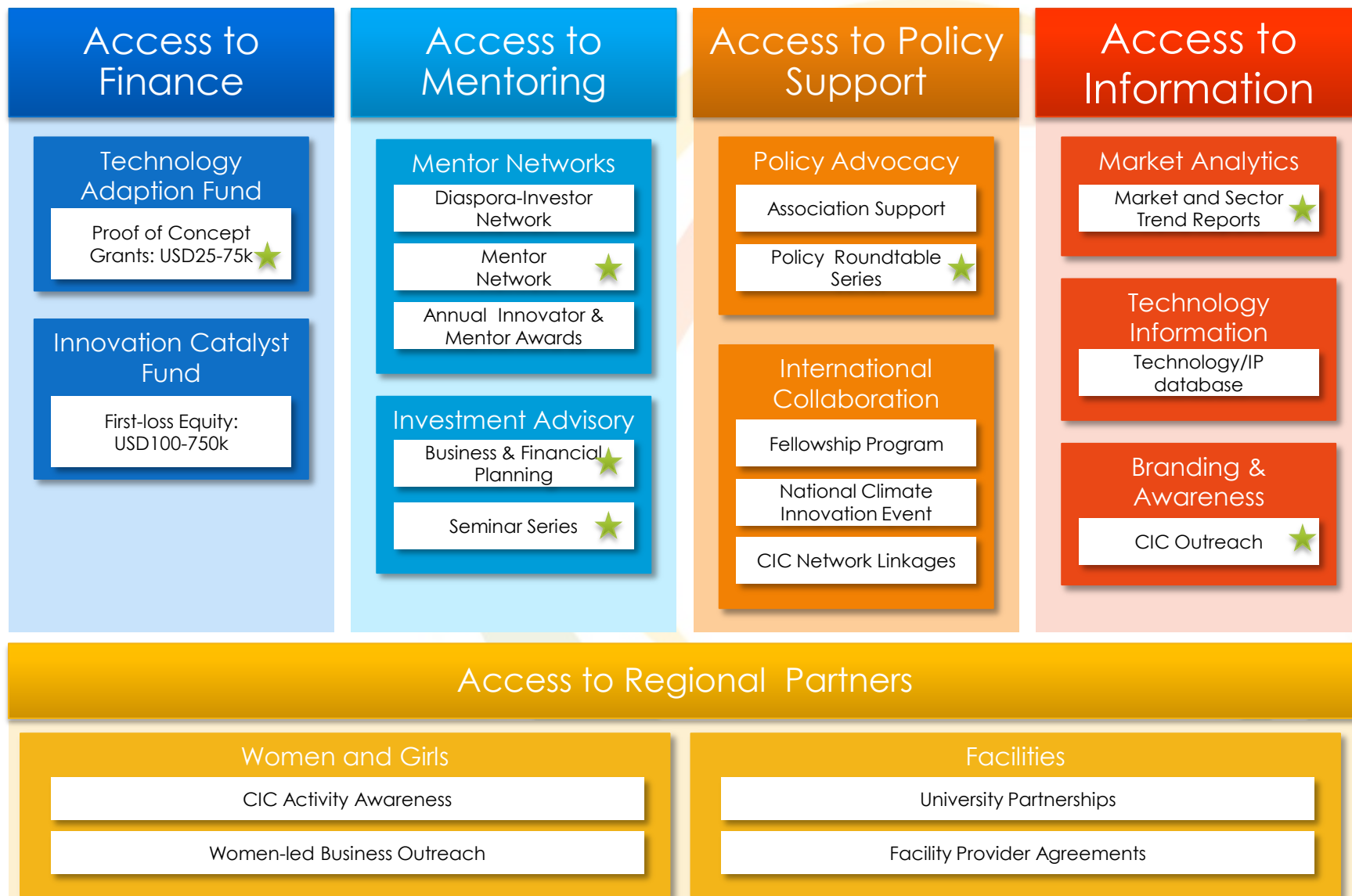


- Gaps identified include: Finance, Technology, Company, Markets, Policy
- Identify stakeholder needs to address the gaps
- Design solutions/activities to meet those needs

Example identified gaps: Technology Development

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

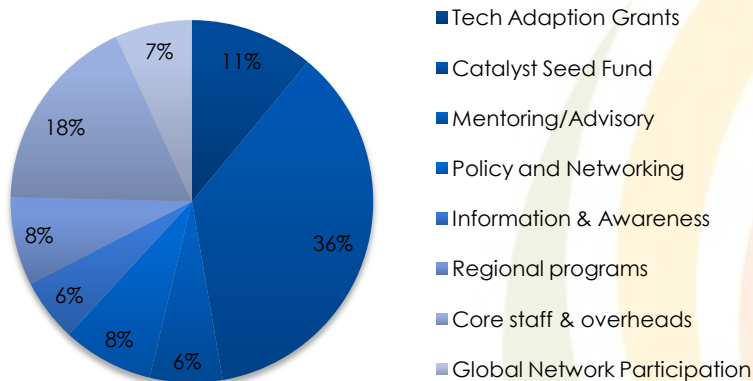
The Ethiopia CIC: Business Model



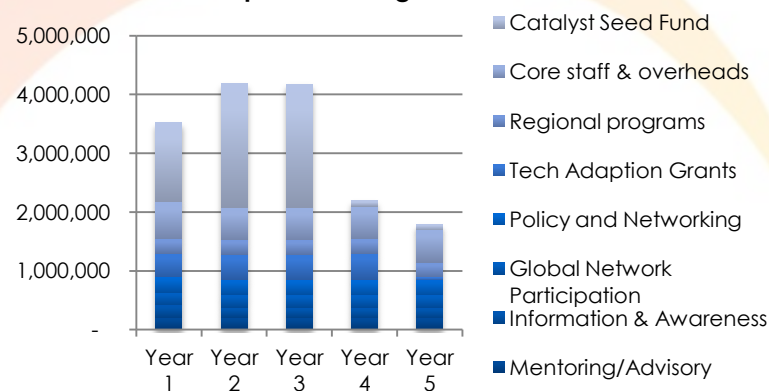
CIC Financial Plan

47% of the total 5 year budget is allocated to direct investments into high impact technologies

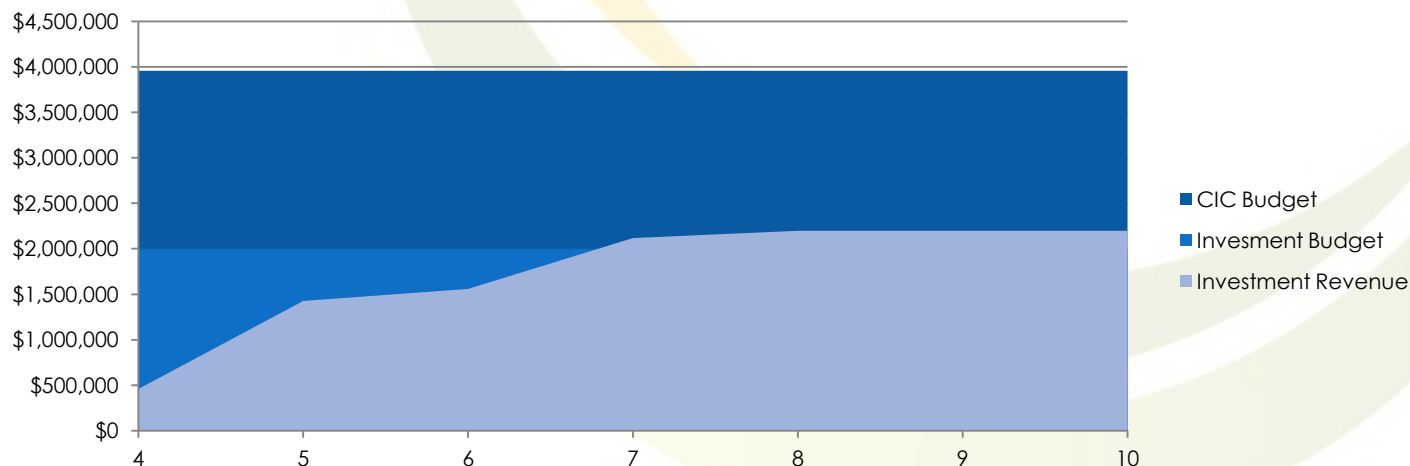
USD 15.9m Ethiopia CIC budget breakdown



Ethiopia CIC budget breakdown



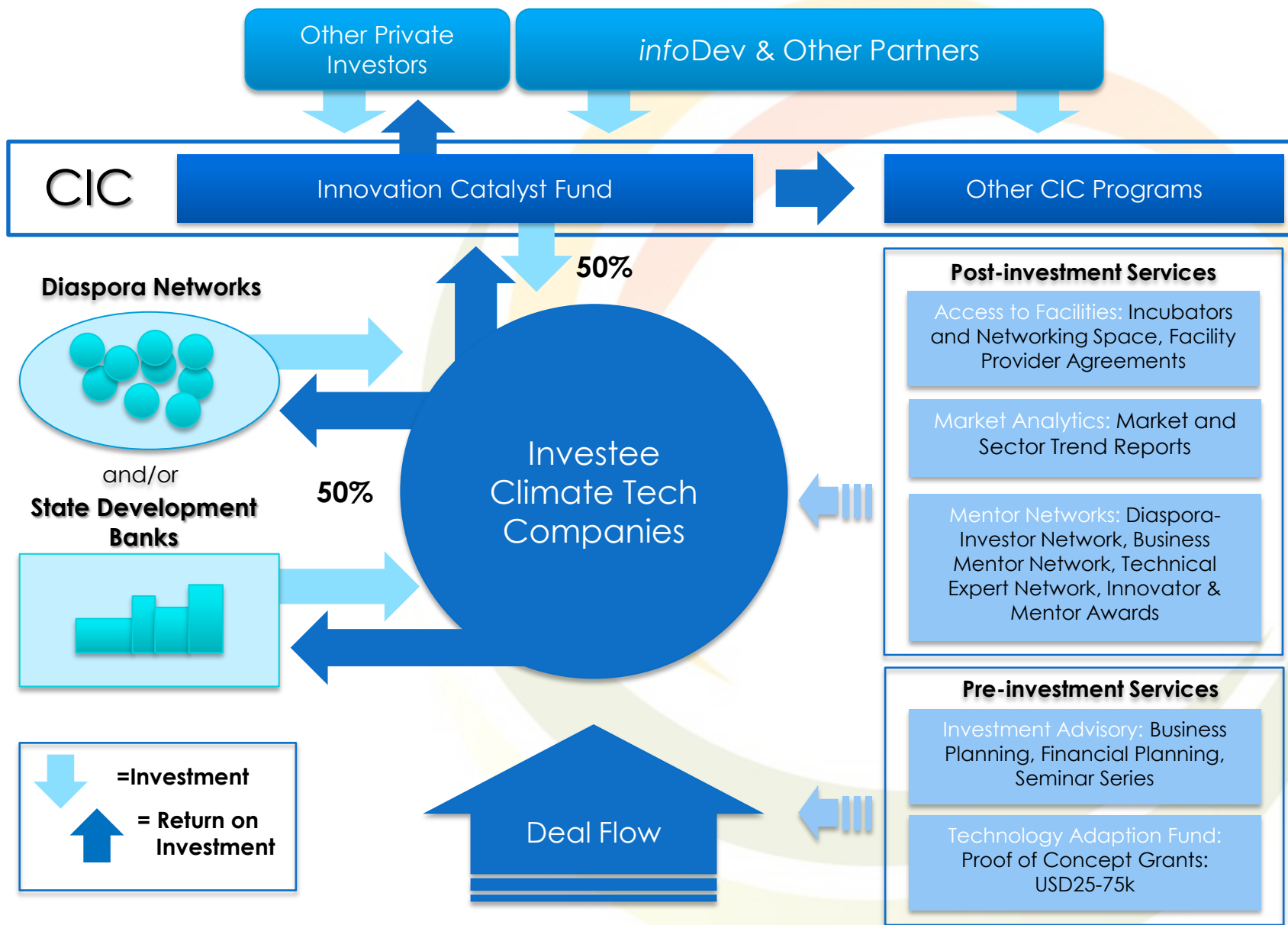
Center Sustainability: Replenishing 56% of entire costs and 100% of investment costs after year 7



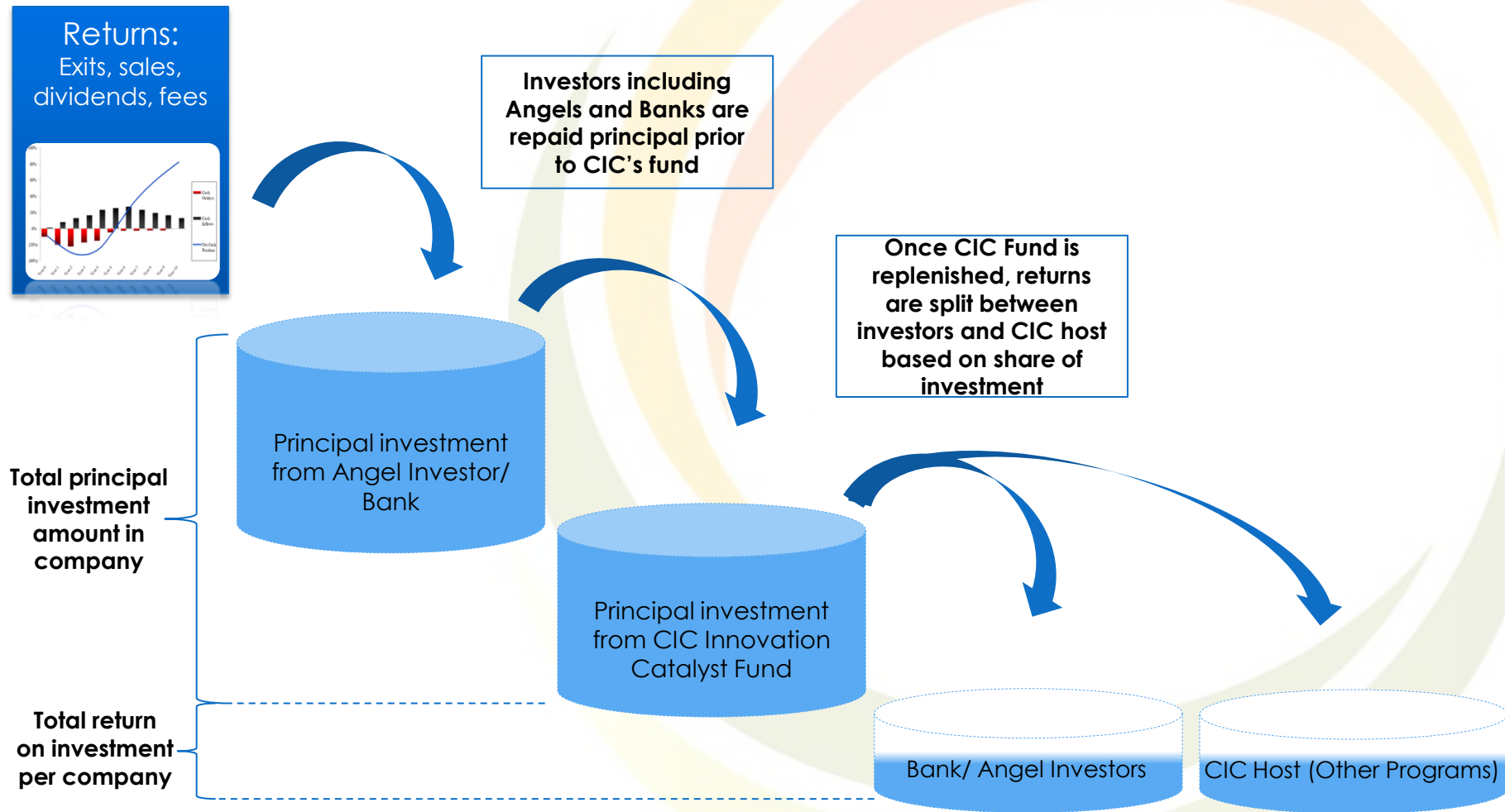
CIC Fund Investment Criteria

- 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



CIC's Innovation Catalyst Fund's reflow waterfall provides 50% cushion to reduce financial risk to angel and bank investors



The CIC's Long-term Impacts

Environmental

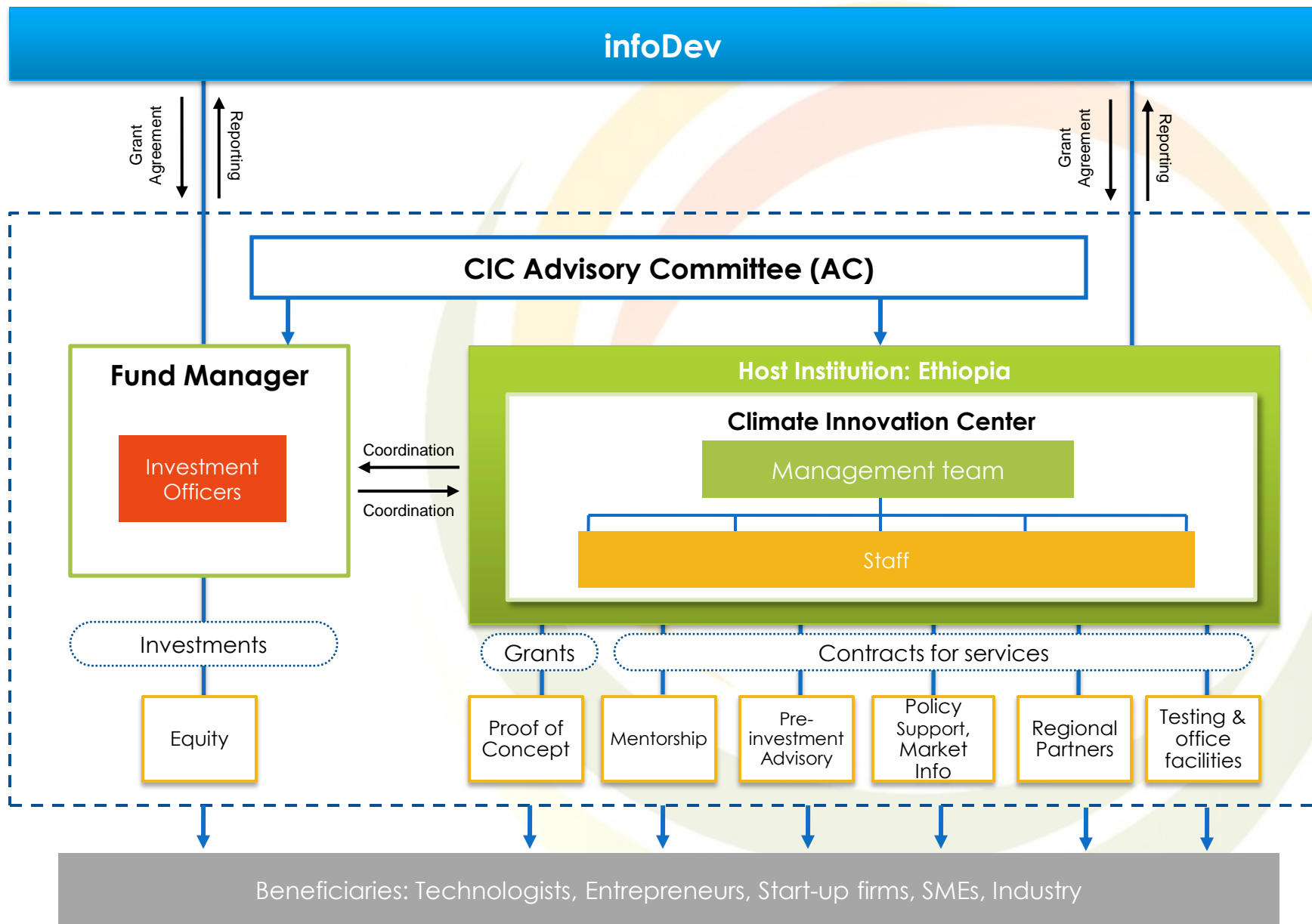
- Mitigating up to 0.8M tons of CO₂
- Providing up to 340M kiloliters of clean water to over 420,000 Ethiopians
- Providing increased energy access of up to 500M kWh, contributing to an installed capacity of over 120MW reaching an additional 265,000 people
- Improving agricultural yield for up to 120k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

Financial

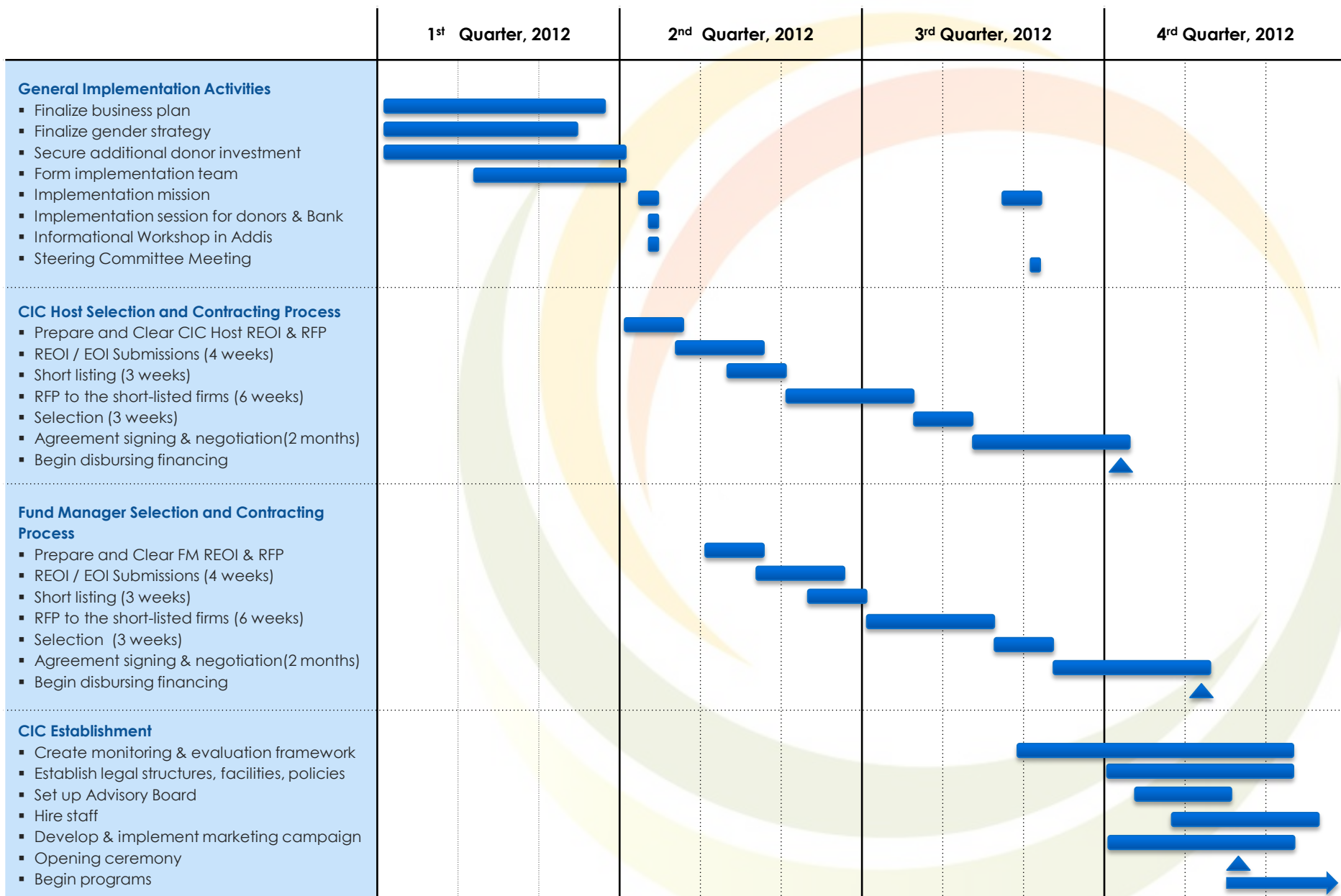
- Providing finance, technical assistance & mentoring to up to 40 entrepreneurs at the proof-of-concept stage and up to 20 companies at the seed equity stage.
- Impact up to USD180m on economy over 10 years
- Economic rate of return on cost of project at over 100% and IRR on investments at 12%.
- Achieve 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 effects of climate change
- Providing 430,000 with better/cheaper access to food



Implementation Timeline



Larger vision: CIC network provides mechanisms for collaboration



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



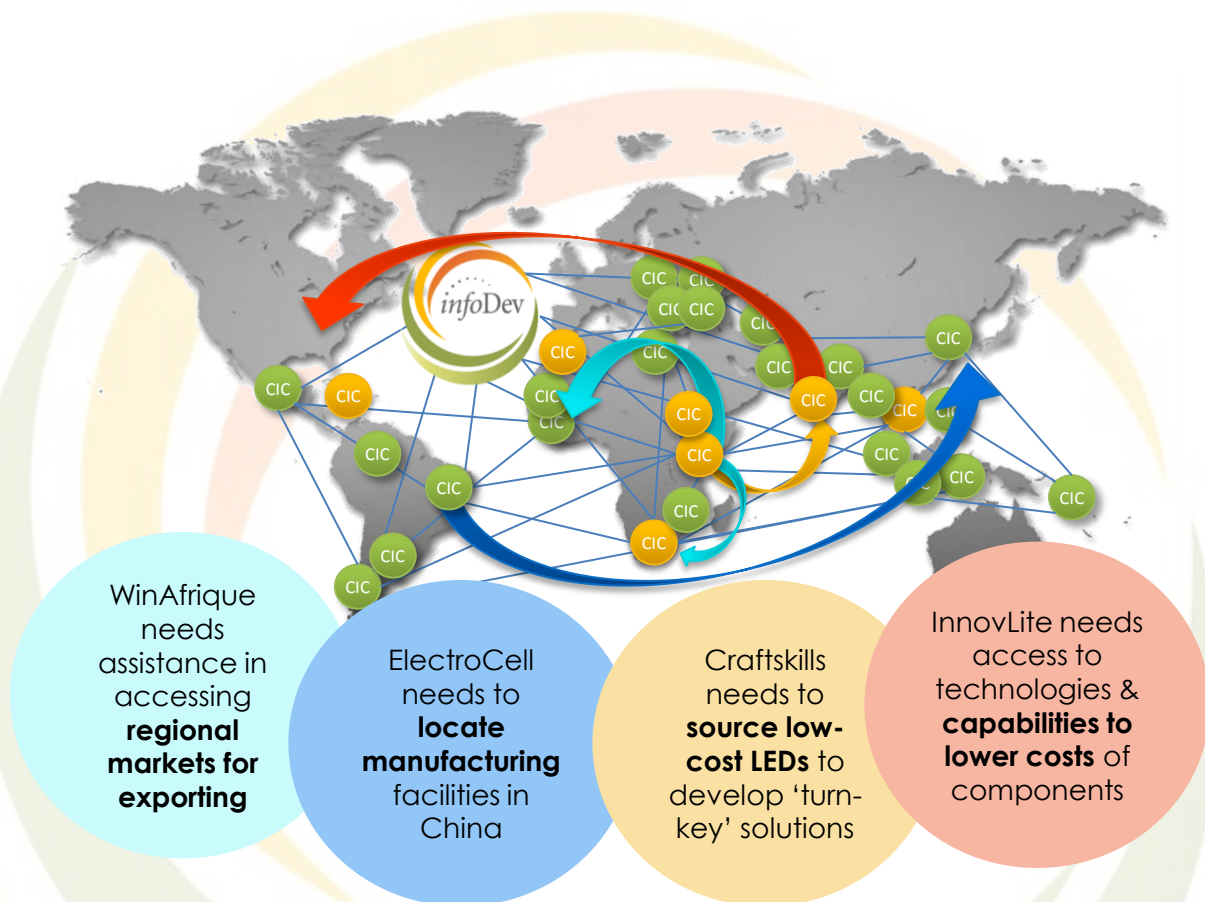
Company: ElectroCell
Country: Brazil
Product: Fuel cells & batteries



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



Company: InnovLite
Country: India
Product: LED lighting



Activities of Global Network

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