THE GLOBAL INNOVATION LAB FOR CLIMATE FINANCE

Impact and Lessons Learned, 2014-2019

Published February 2020
Contents

p. 03 Driving Sustainable Investment: The Need for the Lab

p. 10 Lab Impact Highlights: 2014-2019

p. 20 How the Lab Works: From Idea to Impact

p. 33 What’s Next?

*Case studies of many of the Lab’s solutions are highlighted throughout the report.
DRIVING SUSTAINABLE INVESTMENT: THE NEED FOR THE LAB
Sustainable investment is critical to tackle the key global challenges of the 21st century

Climate Change
Meeting the Paris Agreement goals and ramping up ambition in emissions reductions

Sustainable Development
Meeting the Sustainable Development Goals
Climate investment is increasing, but falls short of global needs

$4 Trillion

$3 Trillion

$2 Trillion

$1.6 Trillion

Range of supply-side energy system investment required each year through 2050 to keep warming within a 1.5° scenario (IPCC)

$1 Trillion

$500 Billion

$360 bn  $342 bn  $388 bn  $472 bn  $455 bn


$579 bn → Annual average tracked finance for climate change mitigation and adaptation in 2017-18
The Lab identifies, develops, and launches innovative finance instruments that can drive billions in private investment to action on climate change and sustainable development.

- **41** instruments launched
- **60+** public and private Lab Member institutions
- **300+** supporting experts, nearly half from developing regions
The Lab brings together over 60 institutions to address the sustainable investment gap.
$2.07+ bn mobilized by 41 instruments for climate action in developing countries

$370+ mn invested by Lab Member institutions

$1.7+ bn catalyzed in additional investment

Lab instruments have mobilized 200x what funders have invested in the Lab Secretariat
Global and Regional Synergies

The Global Innovation Lab for Climate Finance was established in 2014 and accepts submissions for ideas in all developing country regions.

The Lab program in Brazil was established in 2016 to identify, develop, and support implementation of finance solutions to drive funds for the country’s national climate priorities.

The Lab program in India was launched in 2015 and focuses on solutions to finance infrastructure for renewable energy and other channels for green growth in India.

The 2020 cycle is the first of the Lab program for Southern Africa countries, tailored to suit the region’s market for climate finance instruments.
LAB IMPACT HIGHLIGHTS:
2014-2019
Since 2014, the Lab has launched 41 solutions that tackle investment barriers in the **most critical sectors and regions for action on climate change**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable Energy</td>
<td>19</td>
</tr>
<tr>
<td>Sustainable Cities</td>
<td>18</td>
</tr>
<tr>
<td>Climate Risk</td>
<td>12</td>
</tr>
<tr>
<td>Agriculture, Forests, Nature-Based Solutions</td>
<td>10</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>8</td>
</tr>
<tr>
<td>Energy Access</td>
<td>7</td>
</tr>
</tbody>
</table>

Number of Lab instruments:

- **Asia**: 20
- **Africa**: 16
- **Latin America**: 15
- **Global**: 6
Lab Member investments have catalyzed an additional $1.7 billion, more than five times their original investments.
Lab instruments have successfully mobilized over $800 million in investment from the private sector.

More than 90% of measured private finance has come from institutional investors and commercial banks. A small amount has also come from private equity investors.

Private investors also co-invest in projects on the ground, which is more difficult to measure.
Climate Investor One is a “whole-of-life” financing facility for early-stage project development, construction financing, and refinancing to fast-track renewable energy projects in developing countries.

**IMPACT**

- **Aims to catalyze** $\sim2.5+$ bn in private sector funds at construction phase
- **Reached final close at** $850$ mn across Development & Construction Equity funds
- Is already invested in several projects including a **116MW** rooftop solar platform and a **42MW** run-of-river hydro platform

- **Targets** $\sim4,800$ GWh (1,700MW) in electricity generation per year
- Will reduce $\sim1.8$ mn tons of CO2e emissions each year
- Will serve $\sim12$ mn people over project lifetimes

CIO has mobilized private sector investment from:

- **NWB Bank**
- **Local Pensions Partnership**
- **MP Pensjon**
- **Aegon**
- **IMAS Foundation**
- **Sanlam**
The Lab has prioritized innovation in adaptation finance by supporting instruments that tackle critical barriers to investment

To date, 12 Lab instruments address climate change adaptation challenges. They include:

- **The West African Initiative for Climate Smart Agriculture** – A dedicated blended finance fund providing financial and technical support to smallholder farmer organizations and agribusinesses to adopt climate-smart agriculture practices in West Africa.

- **Blockchain Climate Risk Crop Insurance** – A standardized, digital index crop insurance platform for smallholder farmers that addresses the impacts of climate change on crop production by making insurance more transparent, efficient, and scalable.

- **Restoration Insurance Service Company (RISCO)** – A social enterprise that finances and manages implementation of mangrove restoration and conservation by capturing the financial benefits generated by reducing property damage risks and storing blue carbon.
The Water Financing Facility mobilizes domestic investment into climate compatible water sector projects through the local bond market, to shift the way the water sector is being financed in order to increase global access to water and sanitation.

WFF is setting up a pilot project in Kenya. It has established a first loss reserve fund with the support of the Kenyan Treasury and secured additional guarantees provided by USAID, SIDA, and GuarantCo. The Commercial Bank of Africa will underwrite the first bond issuance, which will allow for financing of further water and sanitation projects.

WFF is also in the process of replicating the facility in other countries; presently Indonesia is being assessed.

**IMPACT**

- **Aims to mobilize $1 bn** equivalent in local currencies
- **$15.4 mn in investment secured** from seven sources
- **Seeking approximately $75 mn** in total co-financing support

- **Aims to provide sustainable access to safe water and sanitation to 20 million people**
- **Target growth to 8 countries**
Lab instruments support the Sustainable Development Goals

Number of Lab instruments by SDG:

- **Climate Action**: 41
- **Decent Work and Economic Growth**: 41
- **Partnerships for the Goals**: 41
- **Responsible Consumption and Production**: 35
- **Industry, Innovation and Infrastructure**: 29
- **Affordable and Clean Energy**: 22
- **Sustainable Cities and Communities**: 19
- **Good Health and Well-being**: 15
- **No Poverty**: 11
- **Reduced Inequalities**: 11
Long-Term FX Risk Management provides tools to address currency and interest rate risk – helping overcome major barriers to investment in renewable energy and climate-relevant projects in developing countries. For context, one in eight developing world currencies fall 20% or more against the dollar in a given year; and one in 20 crash by 50% or more.

Proponents TCX provide a vital currency hedging mechanism, with a portfolio of exposure to almost 60 hard-to-hedge currencies in developing countries, allowing climate-relevant projects to access finance. Many of the projects supported contribute to both climate goals and the SDGs.

**IMPACT**

- Hedged $250 mn of climate-related investment in 11 countries
- Total currency risk managed grew 40% from 2017 to 2018
- Examples of supported projects with SDG benefits include:
  - M-KOPA, is tackling poverty and access to affordable and clean energy by providing solar home systems to more than 500,000 low-income households in Kenya, Tanzania, and Uganda
  - InsuResilience Investment Fund in Georgia, is helping to ensure sustainable cities and communities by providing weather insurance for households that are affected by climate-related extreme weather events
The Lab has been formally endorsed by the governments of the G7, India & Brazil.

In 2017, the Lab was included in the Center for High Impact Philanthropy’s “Top 11 Best Bets” out of nearly 2,000 submissions to the Macarthur Foundation’s 100&Change competition.
HOW THE LAB WORKS:
FROM IDEA TO IMPACT
The Lab’s three ingredients to success

Public-Private Collaboration
Strengthened partnership between the public and private sectors builds capacity and knowledge to identify and deploy effective climate finance solutions.

Innovation & Transformative Solutions
Innovative, actionable, catalytic, and financially sustainable solutions reduce risks and barriers to investment in sustainable development.

Mobilizing Finance
Catalytic finance from Lab Members and the broader network enables piloting and implementation of transformative solutions.
The Lab process has five steps

1. **Call for Ideas**
The Lab publicizes an open call for innovative sustainable investment solutions.

2. **Selection**
Lab Members select the most promising ideas to take forward in each annual cycle.

3. **Development**
Selected ideas benefit from 7 months of analysis, stress-testing, and guidance from experts and investors.

4. **Endorsement & Launch**
Lab Members vote to endorse and launch the ideas for piloting.

5. **Implementation**
The ideas move into action and fundraising to launch pilots, with continued support from the Lab network.
The Lab’s structure fosters cross-sector cooperation and enables solutions to overcome investment barriers

300+ experts from around the world have participated in the five Lab cycles.

Nearly half of our participating experts come from developing regions. Our regional programs leverage the strengths local networks, market knowledge and depth of context.

Half of the Lab’s participants come from the private sector and half from public institutions, including government agencies and ministries, and development banks.

The Lab has strong representation from the financial sector. A quarter of partners are from development banks and another quarter are from financial services.

The Lab also utilizes observers and other strategic partners, who help create linkages outside the Lab to funding opportunities and other technical support, including to help scale ideas once proven.
“It has been exciting to partner with the Lab to support the identification and development of early stage concepts into more developed instruments that now actively mobilize global capital for climate finance. The Lab format brings together a diverse set of stakeholders, skills and perspectives, and through active knowledge sharing, discussion and debate, helps incubate and accelerate the commercialization of viable ideas.”

Alan Synnott, Managing Director, BlackRock Real Assets

““The Lab is a great example of how a focused, technical, and collaborative approach can identify and leverage innovative business solutions to some of the great challenges we face as society.”

Karine Bueno, Head of Sustainability/Corporate Social Responsibility, Santander

Lab Members from diverse sectors and regions drive innovation
Lab ideas meet four key selection criteria

<table>
<thead>
<tr>
<th>Actionable</th>
<th>Innovative</th>
<th>Catalytic</th>
<th>Financially Sustainable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifies 1. The type of entity(ies) that could implement it 2. The pathway towards implementation, including the timeframe, activities, and key milestones, and 3. Possible challenges to implementation and related management strategies.</td>
<td>Demonstrates the ability to address, directly or indirectly, barriers to private climate finance that 1. Have not yet been addressed or 2. That will be addressed more effectively compared to other instruments in the market.</td>
<td>Demonstrates potential to 1. Mobilize private climate capital within a sizeable market, 2. Be scaled up or replicated in other contexts and, 3. Achieve socioeconomic, development, and environmental impacts.</td>
<td>Identifies 1. A strategy to phase out public financial support, thereby achieving market viability and 2. Possible challenges to achieving its intended objectives and related management strategies.</td>
</tr>
</tbody>
</table>
Lab instruments represent a range of financial innovations that help scale climate action. They are proposed by enterprises, fund managers, and market experts to overcome market barriers to investment.

They use a variety of finance sources: 32 make use of equity, 27 use commercial debt, 18 use preparation-stage grants, 15 use concessional debt, and 12 employ guarantees, among others.
Lab instruments represent a diverse array of financial mechanisms
Selected Lab ideas receive $250k in in-kind analytical and communications support from the Lab Secretariat, Climate Policy Initiative.

Ideas receive guidance and support from high-level Lab Members who contribute expertise, political capital, and financial capital.

After endorsement and launch, Lab instruments benefit from continued support from the Lab Secretariat, including bespoke analytical support and continued connections with the Lab investor network and beyond.
"By providing early stage analysis and market scoping for bold concepts, the Lab plays a vital role in bringing innovative finance mechanisms to market. More specifically, the Lab has moved forward some very interesting blended finance vehicles that Convergence has been able to engage with at a later stage."

Joan Larrea, CEO, Convergence

"Supporting the core principles of the NDF strategy, the Lab provides a good channel for NDF to identify innovative climate financing initiatives for further financing and development in the risky early phases. As a clear signal of the importance of the Lab, NDF is proud to hold the position as the institution which, to date, has funded the largest number of early-stage financial instruments developed through the Lab."

Leena Klossner, Vice President, Nordic Development Fund
CRAFT is the first commercial investment vehicle to focus on technologies and solutions for climate adaptation.

Using a blended finance structure, it invests growth equity in companies delivering climate intelligence or physical products and services for resilience.

THE LAB’S ROLE

- Helped develop and refine CRAFT’s blended fund structure
- Engaged critical working group audiences to test investment thesis of the fund
- Facilitated intros and pitches to key investors and funders, particularly on the public/DFI side
- Led a deep dive design study examining structures of comparable technical assistance facilities to inform CRAFT’s TA delivery mechanism

PROGRESS TO DATE

- Reached first close with investments from Lab members The Rockefeller Foundation and KfW as well as Lab observer EIB alongside other public and private investors
- Identified 20 relevant climate resilience market segments totaling $130 bn+ of current spending and mapped more than 700 companies within these segments

Sanjay Wagle, The Lightsmith Group and proponent of CRAFT

“The Lab was ideal at the early stage to incubate and develop a nascent idea and formalize it before it was taken out into the world…The questions that Lab advisors asked were the same ones that investors and governments would ask us later.”
Sustainable Energy Bonds are a class of bonds to drive impact investment to sustainable energy projects in India by offering debt exposure, sufficient returns, and standardized impact measures. Target projects include distributed renewable energy (small-scale and off-grid solutions), energy efficiency for buildings and industry, projects for increasing energy access, and projects to encourage sustainable urbanization.

THE LAB’S ROLE

• Reached out to potential investors to understand common impact measures and confirm definitions of measures
• Helped formalize impact measures to give standardized information to investors and engaged with investors and the market

PROGRESS TO DATE

• Raised $3 mn from CalCEF in 2018 towards first issuance to finance:
  • 75% rooftop solar
  • 20% solar pumps and other energy access projects
  • 5% energy efficiency
• $15 mn second issuance anticipated in the near term

“Lab support was really valuable in helping to formalize impact measures so that we could give needed information to investors. Standardization was crucial. The Lab liaised with investor groups to understand what was needed in this space.”

Pawan Mehra, cKers Finance and proponent of SEBs
The Green FIDC is a project finance instrument that allows clean energy and energy efficiency projects to secure financing based on future cash flows from energy sales. In 2019, the team received a $300k design grant from Convergence and two pilots are underway with private developer Origo Energia to finance up to 750 MW of distributed and community solar systems helping to drastically reduce energy costs. The next step is to reach financial close for the pilot Green FIDCs and scale the concept to other sectors.

THE LAB’S ROLE

• Helped Green FIDC navigate development finance and supported fundraising efforts
• Modeled climate and development impacts, helped communicate these effectively
• Provided validation and network to support investor engagement

PROGRESS TO DATE

• Raised $10+ mn towards $25+ mn close for pilot
• Secured Convergence design grant to structure a community solar Green FIDC
• Ongoing discussions to scale the concept to energy efficiency and water infrastructure sectors

“The Lab was able to not only provide us with valuable networking, but also guide us to navigate the complexities of aligning concessional and commercial capital effectively.”

Paulo Todaro, Albion Capital and proponent of Green FIDC

2017 Lab Instrument
WHAT’S NEXT?
In 2019, the Lab launched a new class of instruments

**SUSTAINABLE AGRICULTURE**

**The West African Initiative for Climate Smart Agriculture**
A facility to support the uptake of climate-smart agricultural practices through the provision of technical assistance and subsidized-rate loans or guarantees for smallholder farmers’ organizations and agribusinesses.

**Blockchain Climate Risk Crop Insurance**
An automated weather-indexed crop insurance infrastructure that helps smallholder farmers in sub-Saharan Africa increase resilience to the impacts of climate change, via insurance that is transparent, affordable, and pays out quickly.

**BLUE CARBON**

**Restoration Insurance Service Company**
A social enterprise that finances and manages implementation of mangrove restoration and conservation by capturing the financial benefits generated by reducing property damage risks and storing blue carbon.

**SUSTAINABLE CITIES**

**The Breathe Better Bond Initiative**
A debt instrument for local governments to finance projects that reduce current and projected short-lived climate pollutants in emerging market cities.

**ENERGY ACCESS**

**Solar Securitization for Rwanda**
Solar-asset backed securities to drive needed finance to accelerate Rwanda’s solar sector and make progress towards Rwanda’s goal of 100% energy access by 2024.

**SUSTAINABLE CITIES**

** Cooling as a Service**
A pay-per-service model to decrease energy consumption and HFC gas emissions from cooling systems in cities, by increasing competitiveness of cleaner and more efficient technologies.
In 2020, the Lab is incubating mitigation and adaptation ideas in sectors and geographies critical for climate action...

...while also exploring a facility that provides flexible funding, access to networks, and technical & strategic support to enable scale.

**Nature-based solutions**
Supporting ideas to protect, sustainably manage, and restore natural or modified ecosystems

**Sustainable Cities**
Supporting sustainable urbanization ideas in partnership with cities networks

**Sustainable Agriculture**
Supporting ideas to mobilize investment that overcomes existing barriers to climate-resilient, low emission agriculture

**Sustainable Energy Access**
Supporting ideas targeting deployment of renewable energy for productive use

- India
- Brazil
- Southern Africa
With deep expertise in finance and policy, CPI is an analysis and advisory organization that works to improve the most important energy and land use practices around the world. Our mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has six offices around the world in Brazil, Europe, Kenya, India, Indonesia, and the U.S.

Climate Policy Initiative, as Lab Secretariat:
• Manages the Lab
• Leads analytical support
• Supports ideas to succeed and scale
• Communicates findings, impacts, and lessons learned
• Convenes the Lab and gathers public and private investors