THE LAB’S FIRST FIVE YEARS
Impact and Lessons Learned, 2014-2019
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*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
$463 billion annually flowed towards climate change mitigation and adaptation in 2015 and 2016. However, much more is needed to achieve global climate and sustainable development goals.

While there is no single cohesive estimate of investment required for mitigation and adaptation in a 1.5°C scenario, it is in the trillions of dollars.

For example, the IPCC estimates that a $1.6-3.8 trillion annual investment in energy systems alone is required to keep warming within a 1.5°C scenario.
The Lab identifies, develops, and launches innovative finance instruments that can drive billions in private investment to action on climate change and sustainable development.

35 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.
$1.4+ bn mobilized by 35 instruments for climate action in developing countries

$200+ mn invested by Lab Member institutions

$1.2 bn catalyzed in additional investment

Lab instruments have mobilized 200x what funders have invested in the Lab Secretariat
LAB IMPACT HIGHLIGHTS: 2014-2018
Since 2014, the Lab has launched 35 solutions that tackle investment barriers in the **most critical sectors and regions for action on climate change**

Number of Lab instruments:

- **Renewable Energy**: 18
- **Cities & Transport**: 16
- **Water, Land use & Agriculture**: 9
- **Climate Risk**: 8
- **Energy Efficiency**: 7
- **Energy Access**: 6

- **Asia**: 15
- **Latin America**: 12
- **Africa**: 10
- **Global**: 4
Lab Member investments have catalyzed an additional $1.2 billion, more than five times their original investments.
Lab instruments have successfully mobilized over $445 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 ~$2.5+ bn in private sector funds at construction phase

*Has raised $555 mn across Development & Construction Equity funds so far*

*Has deployed $50 mn into inaugural construction project CleanTech Solar, a pan-Asia rooftop solar platform*

*Targets ~4,800 GWh (1,700MW) in electricity generation per year*

*Will reduce ~1.8 mn tons of CO2e emissions each year*

*Will serve ~12 mn people over project lifetimes*

CIO has mobilized private sector investment from:

- NWB Bank
- LPP
- MP Pensjon
- Aegon
- KLP
- IMAS Foundation
- Sanlam

**Case Study**

**Mobilizing Private Investment: Climate Investor One**

2015 Lab Instrument
The Lab has prioritized innovation in adaptation finance by supporting instruments that tackle critical barriers to investment.

To date, eight Lab instruments address climate change adaptation challenges. These include:

- **Cloud Forest Blue Energy Mechanism** – A mechanism for restoration and conservation of cloud forests in Latin America, which can reduce sedimentation and increase water flow.

- **The Oasis Platform** – A platform to provide open access to data and open source modeling tools that enable risk assessments and evaluation of economic and financial losses associated with climate-related events.

- **The Agricultural Supply Chain Adaptation Facility** – A facility to provide farmers with know-how and finance for climate-resilient investments, by enabling development banks to partner with agribusiness corporations who empower farmers within their supply chains.
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 is expected in Summer 2019. This will allow for financing of water and sanitation projects and will lead to a second bond issuance aiming for Winter 2019.

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:

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<th>SDG</th>
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Supporting the SDGs: Long-Term FX Risk Management

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 $240 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.

Recognitions of the Lab’s value

Media coverage in influential outlets

Bloomberg

Financial Times

The Guardian

Reuters

Valor

Business Standard

The Economist

Los Angeles Times
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.
So far, 300+ experts from around the world, nearly half of whom come from developing regions, have participated in the first four Lab cycles.

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.

A recent addition to the Lab has been 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.
Lab Members from diverse sectors and regions drive innovation

“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

“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 covers four programs that have focused on different regions and investment stages

**Global Innovation Lab for Climate Finance**
The Global Lab, established in 2014, was the first of the four Lab programs. The Global Lab accepts submissions for ideas in all developing country regions. It also incubated the regional Labs.

**India Innovation Lab for Green Finance**
The India Innovation Lab for Green Finance was launched in November 2015 and focuses on solutions to finance infrastructure for renewable energy and other channels for green growth in India.

**Brasil Innovation Lab for Climate Finance**
The Brasil Innovation Lab for Climate Finance was established in November 2016 to identify, develop, and support implementation of finance solutions to drive funds for Brazil’s national climate priorities.

**Fire Awards for Sustainable Investment**
The Fire Awards were created in 2013 and integrated into the Lab in 2016. The Fire Awards recognize and build momentum for ideas that are already showing promise through market testing or existing pilots.
Lab ideas meet four key selection criteria

### Actionable

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.

### Innovative

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.

### Catalytic

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.

### Financially Sustainable

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.
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: 27 make use of equity, 23 use commercial debt, 14 use preparation-stage grants, and 10 employ guarantees, among others.
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.
Instruments benefit from the support of a robust Lab network

“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
**Case Study**

**From idea to impact: Climate Resilience and Adaptation Finance and Technology Transfer Facility (CRAFT)**

2017 Lab Instrument

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.

**PROGRESS TO DATE**

- **Secured $45 mn of approved investment commitments** towards a $75 mn first close from European Investment Bank, Nordic Development Fund, and Government of Luxembourg
- **Identified 20 relevant climate resilience market segments totaling $130 bn** of current spending and mapped more than 700 companies within these segments

**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

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“**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.**”

Sanjay Wagle, The Lightsmith Group and proponent of CRAFT
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.

**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 second half of 2019

**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

Pawan Mehra, cKers Finance and proponent of SEBs

“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.”
The Green FIDC is a project finance instrument that allows green projects to secure financing based on future cash flows from energy sales. A pilot is underway with private developer Órigo Energia to finance the sales of rooftop solar systems to Brazilian residential consumers, helping to drastically reduce energy costs for up to 10,000 residential customers.

The next step is a scale-up program targeting 2-3 new Green FIDCs in 2019-2020, representing 4.5 million tCO2e avoided, and 2400 jobs supported.

**PROGRESS TO DATE**

- **Raised $10+ mn towards $25+ mn** close for pilot
- **Secured grants** to structure 1-2 new FIDCs. Potential transactions are energy efficiency for a public water utility and distributed solar projects
- **6 letters of intent signed with indicative pipeline of $1 bn** of renewable energy and energy efficiency projects

**THE LAB’S ROLE**

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

Paulo Todaro, Albion Capital and proponent of Green FIDC

“[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.]”
WHAT’S NEXT?
In 2018, the Lab launched a new class of instruments

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<tr>
<th>CLEAN ENERGY</th>
<th>SUSTAINABLE LAND USE</th>
<th>LOW-CARBON TRANSIT</th>
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<tr>
<td><strong>Distributed Energy for Social Housing</strong>&lt;br&gt;A vehicle to enable distributed solar energy for low-income tenants in Brazil who cannot make the investments or don’t have access to credit, by providing a robust legal and financial structure to make it an attractive and low-risk investment option</td>
<td><strong>Smallholder Forestry Vehicle</strong>&lt;br&gt;A mechanism to scale up sustainable forestry in Africa through which investors buy portfolios of trees that have been planted by smallholders on degraded land, and recoup their investment once the trees are harvested and sold</td>
<td><strong>Financing for Low-Carbon Auto Rickshaws</strong>&lt;br&gt;A facility to deploy electric auto-rickshaws in Indian cities and provide better livelihoods for drivers, through a model that provides up to 100% debt financing at competitive rates, and opportunities for ownership</td>
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<td><strong>Green Aggregation Tech Enterprise</strong>&lt;br&gt;A vehicle to increase clean energy access through mini-grids in Sub-Saharan Africa, by addressing demand and revenue risk through a risk pooling guarantee</td>
<td><strong>Responsible Commodities Facility</strong>&lt;br&gt;A vehicle to promote the responsible production of commodities, particularly soy, in the Brazilian Cerrado biome, through incentives to plant in already cleared and degraded lands</td>
<td><strong>Battery Subscription Facility</strong>&lt;br&gt;An electric bus battery financing mechanism to provide long-term debt financing to the electric transit sector in India, and reduce the ownership cost of electric buses to compete with diesel buses</td>
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<td><strong>Residential Rooftop Solar Accelerator</strong>&lt;br&gt;A vehicle to accelerate mass adoption of residential rooftop solar to power 200 million households in India, through standardized product offering, easy financing and efficient execution at scale</td>
<td><strong>Socio-Climate Benefits Fund</strong>&lt;br&gt;A fund to increase forest restoration in the Amazon by investing and providing technical assistance to restore degraded lands in smallholders’ farms with agroforestry systems and, at the same time, developing and facilitating sales of their products</td>
<td><strong>Pay-As-You-Save for Clean Transport</strong>&lt;br&gt;A vehicle to accelerate investment in clean transit by lowering the upfront cost of electric buses, allowing a utility to capitalize the on-board battery and charging station for bus owners and recover its costs with a predictable monthly charge</td>
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In 2019, the Lab is incubating mitigation and adaptation ideas in sectors critical for climate action.

**Blue Carbon**
Supporting ideas focused on mitigation and / or adaptation for coastal & marine ecosystems.

**Sustainable Agriculture for Smallholders**
Supporting ideas focused on smallholders in West & Central Africa.

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

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