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**Bank of America**   
**Merrill Lynch**

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Driving private finance to  
achieve 1.5-degree objectives



#LDNClimateAction

@climatepolicy

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# Agenda

16:00 – 16:05 | Welcome from Dr. Barbara Buchner, Executive Director, CPI

16:05 – 16:15 | Climate finance trends and driving private finance to achieve 1.5-degree objectives - Dr. Angela Falconer

16:15 – 17:15 | Panel: Unlocking investment for climate action in infrastructure and mobility

17:15 – 18:00 | Lab instrument showcase

18:00 – 19:00 | Networking drinks

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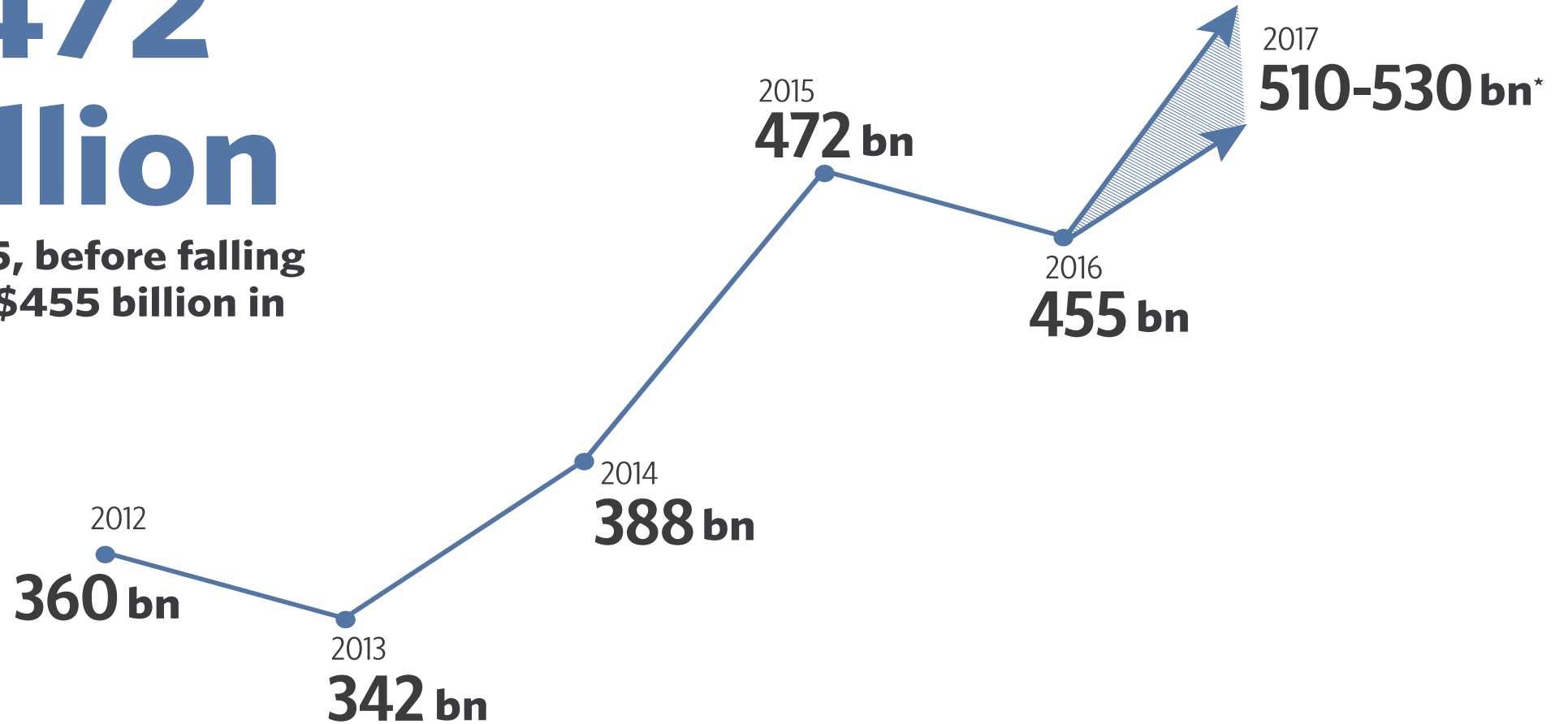
# Climate finance trends and driving private finance to achieve 1.5-degree objectives

July 1, London

Global climate finance  
flows surged to

**\$472  
billion**

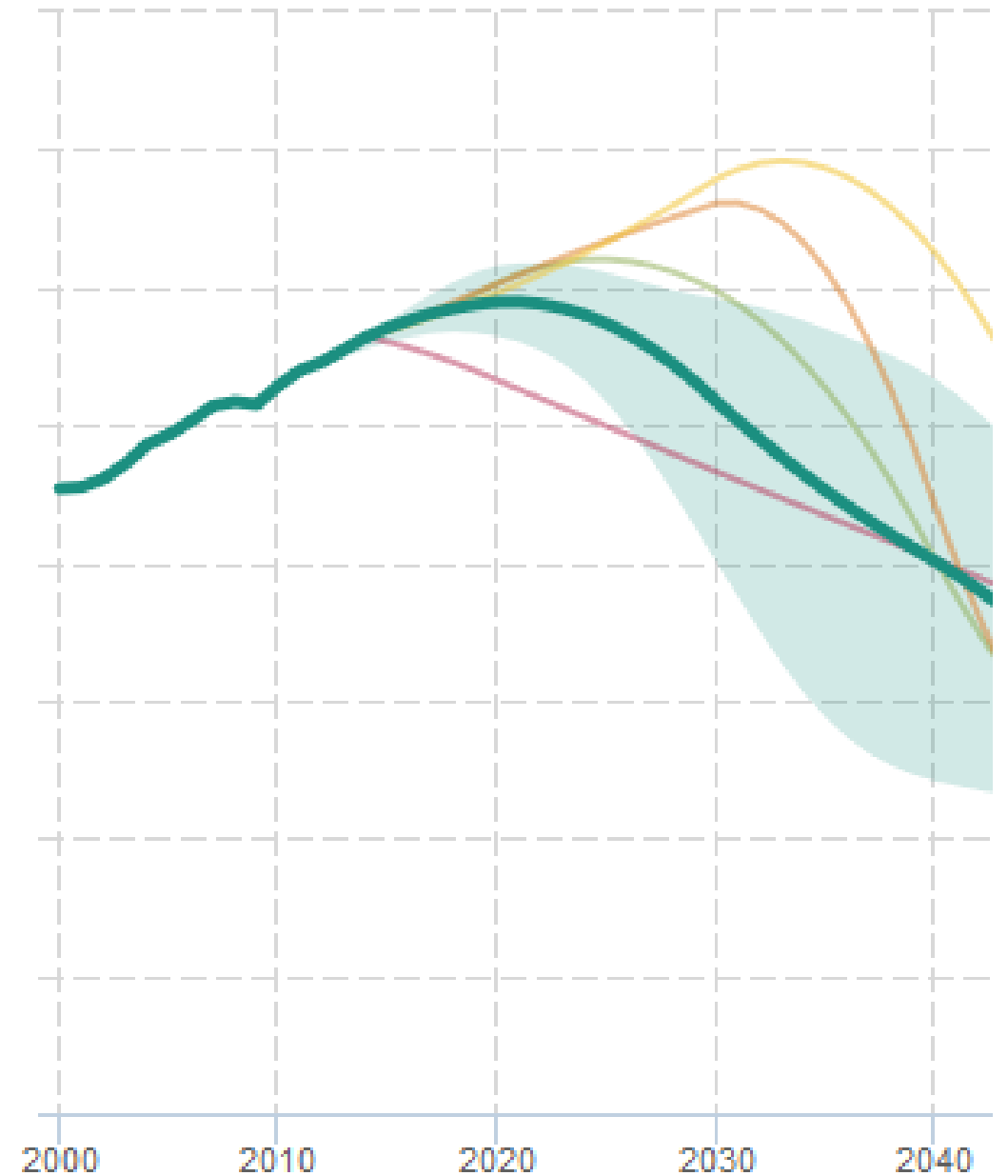
in 2015, before falling  
3% to \$455 billion in  
2016.



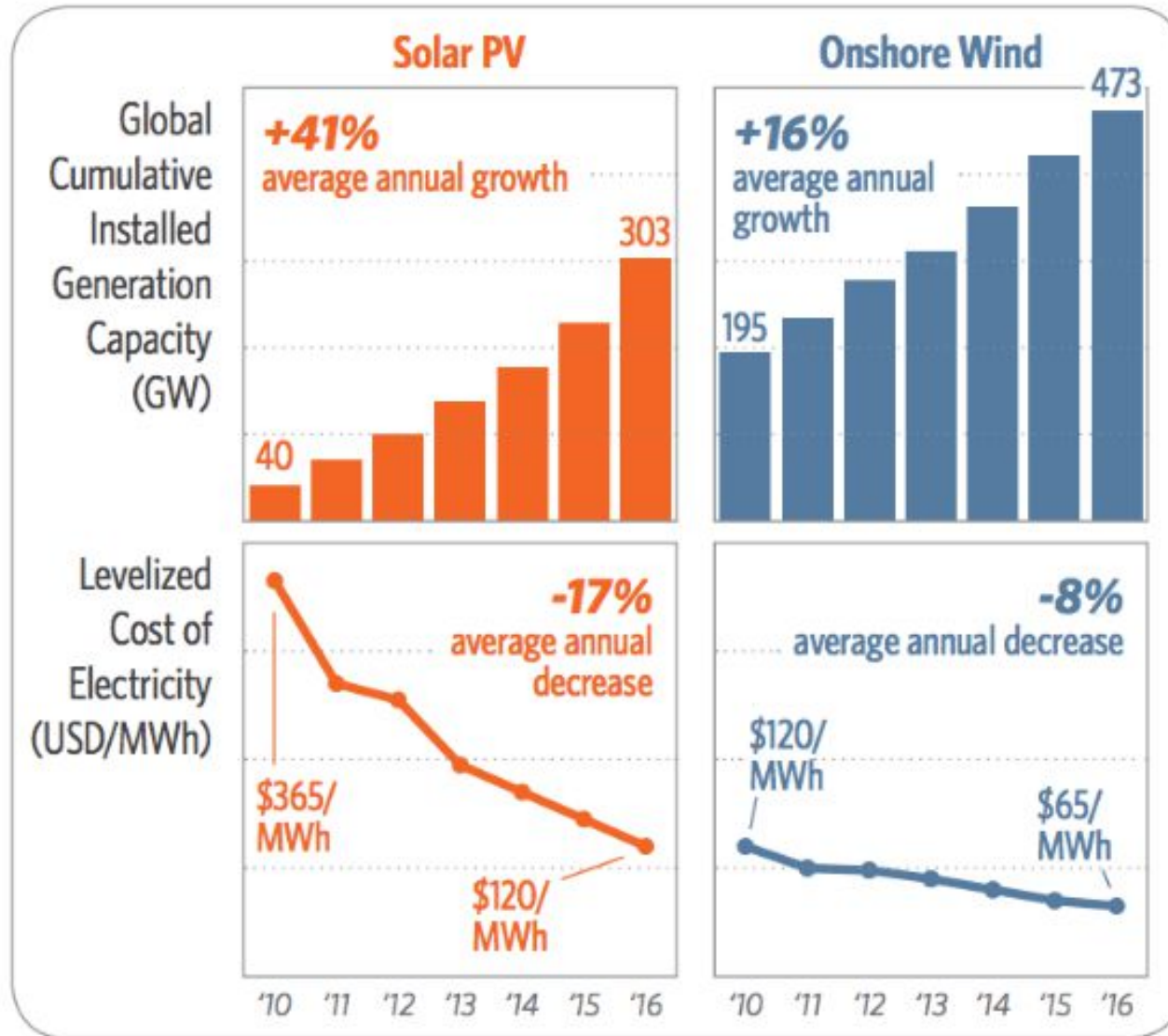
\* Preliminary Estimate

\$3.8tn/year

To achieve 1.5 degree  
warming goals in the  
energy system alone  
according to IPCC

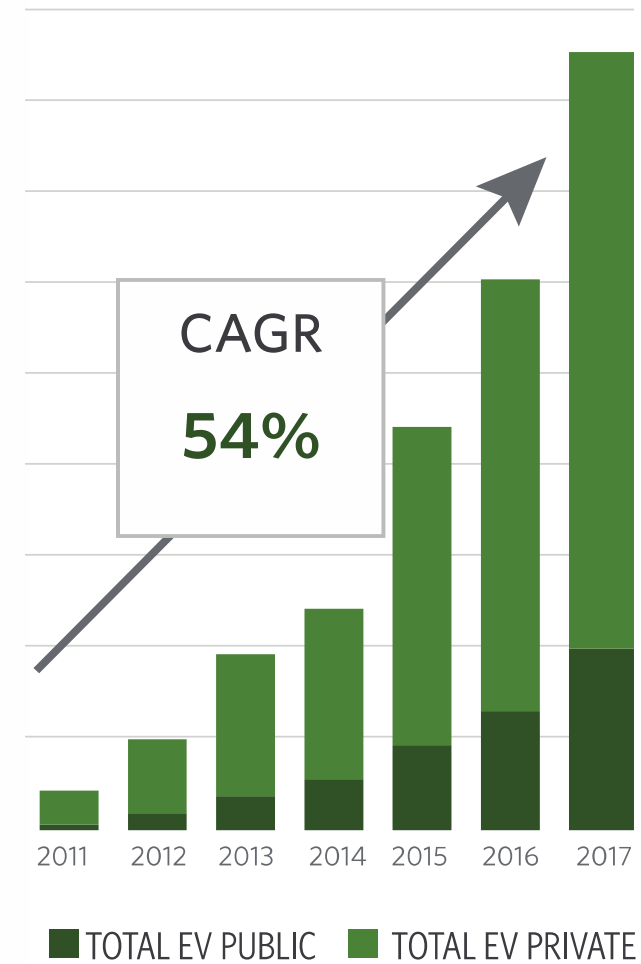
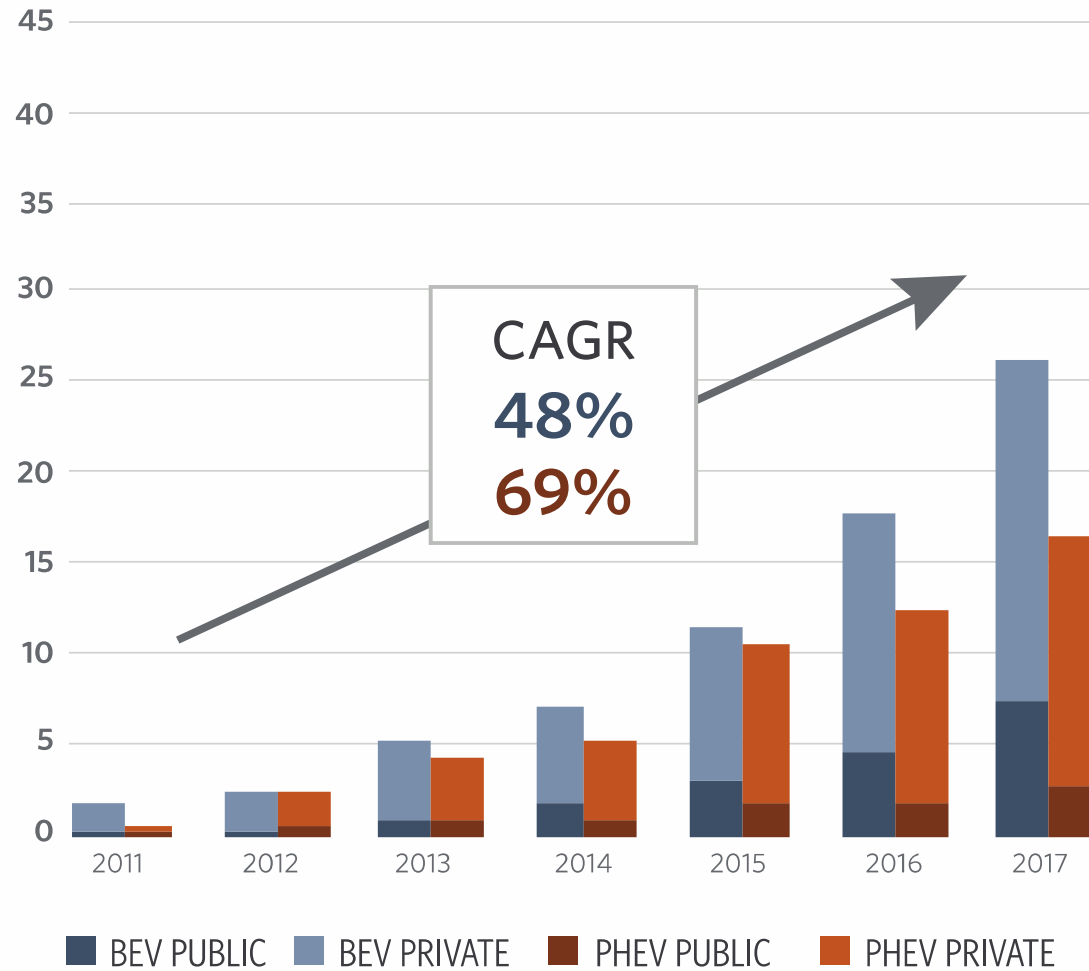


# Investment in renewables has grown exponentially



CPI analysis based on REN21, IRENA, WEC data

# Investment in electric vehicles has grown exponentially to USD 43 bn



# LANDSCAPE OF CLIMATE FINANCE IN 2015/2016

Global climate finance flows along their life cycle in 2015 and 2016. Values are average of two years' data, in USD billions.

**463** BN USD ANNUAL AVERAGE

## SOURCES AND INTERMEDIARIES

Which type of organizations are sources or intermediaries of capital for climate finance?

## INSTRUMENTS

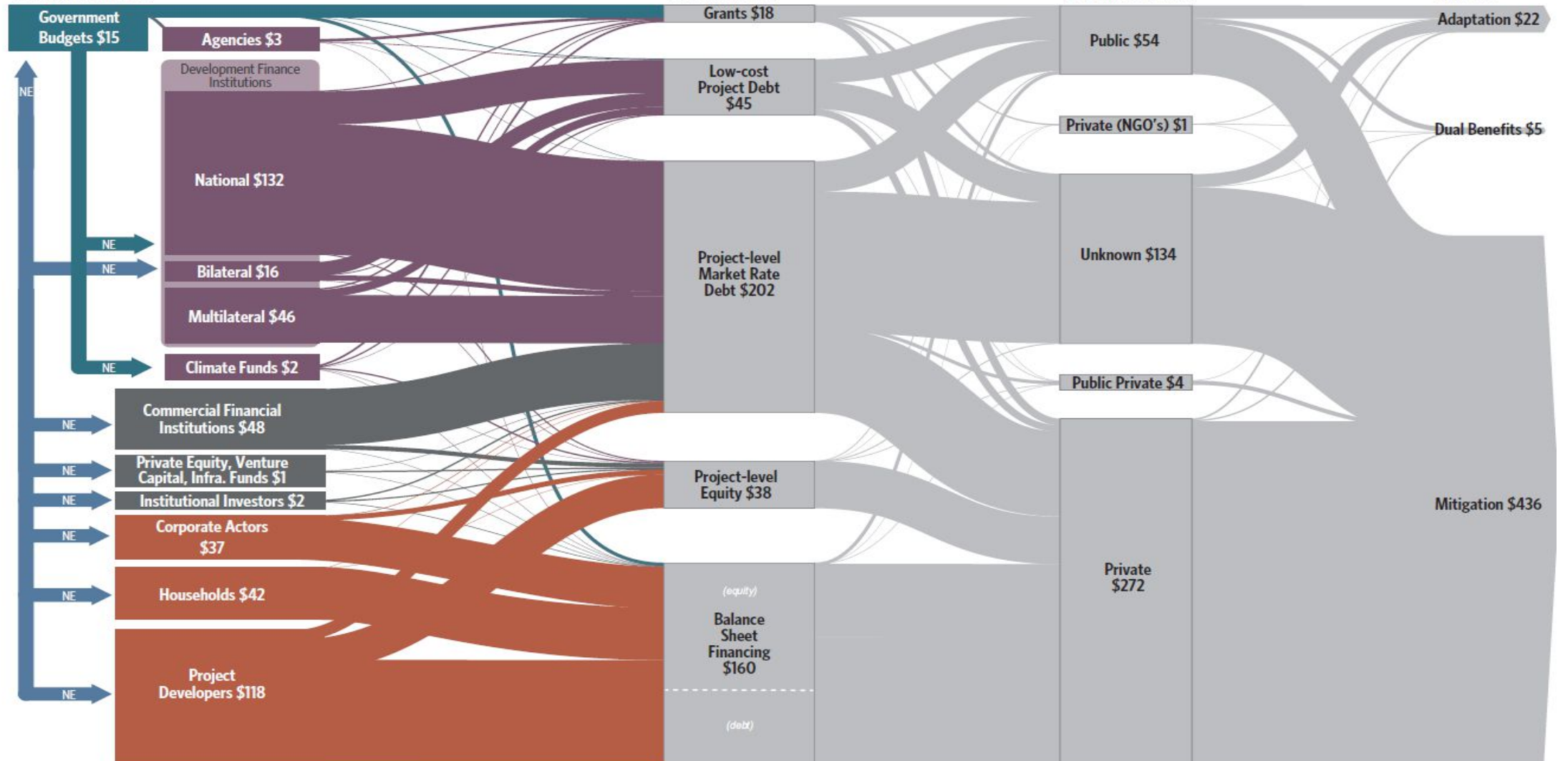
What mix of financial instruments are used?

## RECIPIENTS

Does climate finance go through public or private channels?

## USES

What types of activities are financed?



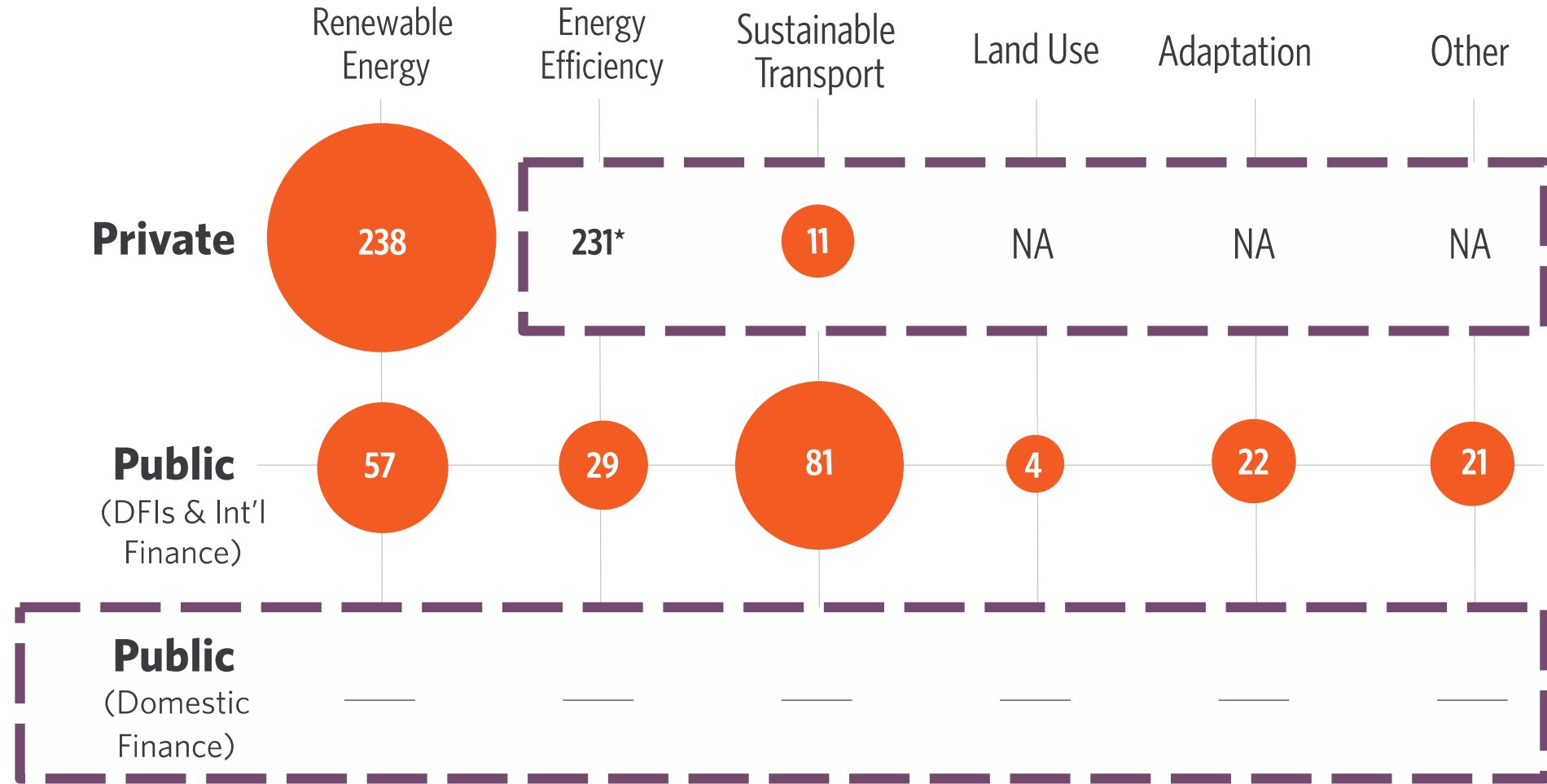
**KEY**

- █ PUBLIC MONEY
- █ PRIVATE MONEY
- █ PUBLIC FINANCIAL INTERMEDIARIES
- █ PRIVATE FINANCIAL INTERMEDIARIES
- FINANCE FOR INVESTORS & LENDERS

NE: NOT ESTIMATED



Private sector provides the bulk of finance, but public sector remains the engine behind it



All figures in USD Billions

 Tracked

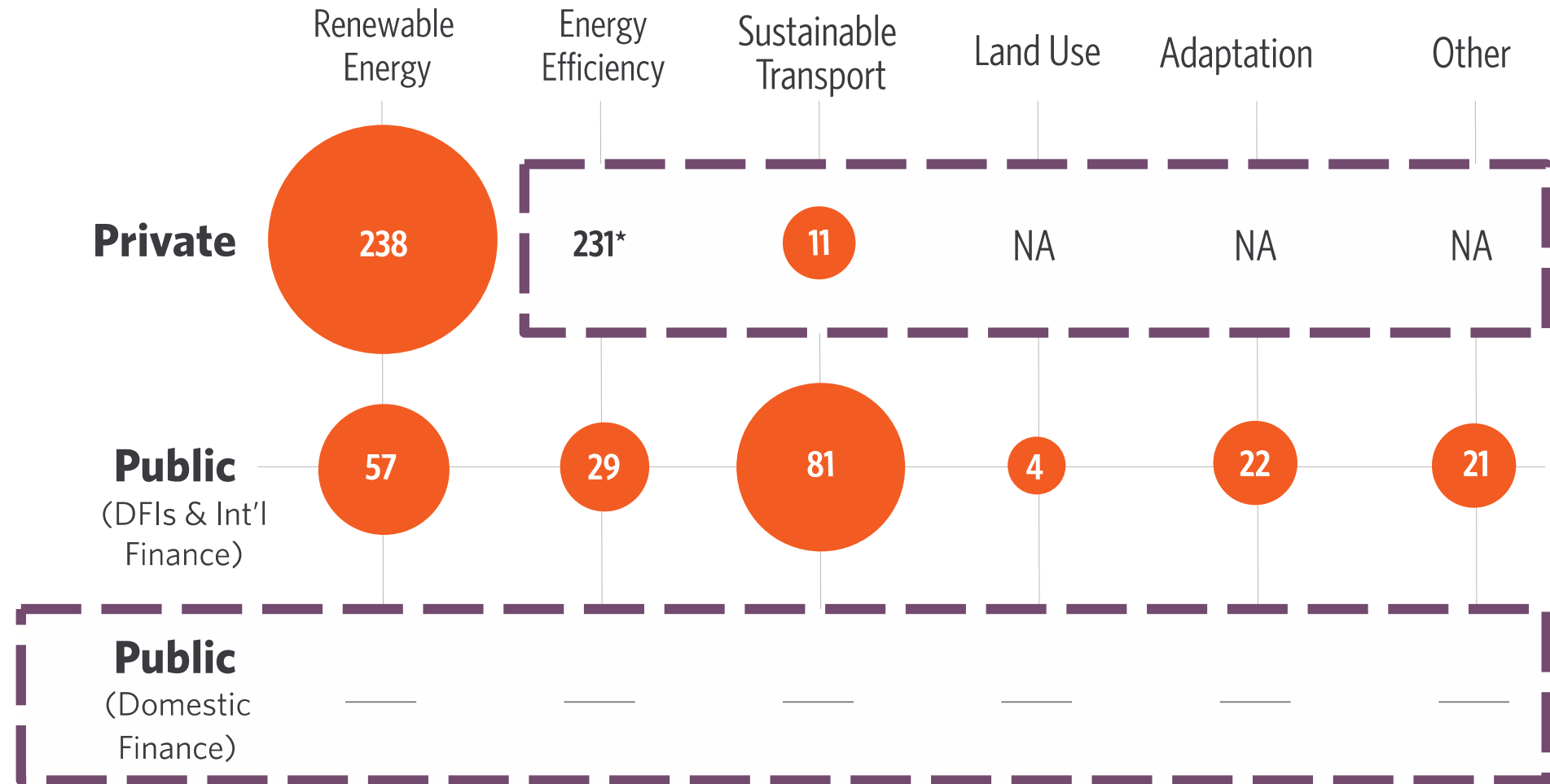
 Not tracked

\* Source: IEA WEIO 2017

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Accelerating action through finance

# Filling the gaps in the current landscape of climate finance



All figures in USD Billions

 Tracked

 Not tracked

\* Source: IEA WEIO 2017



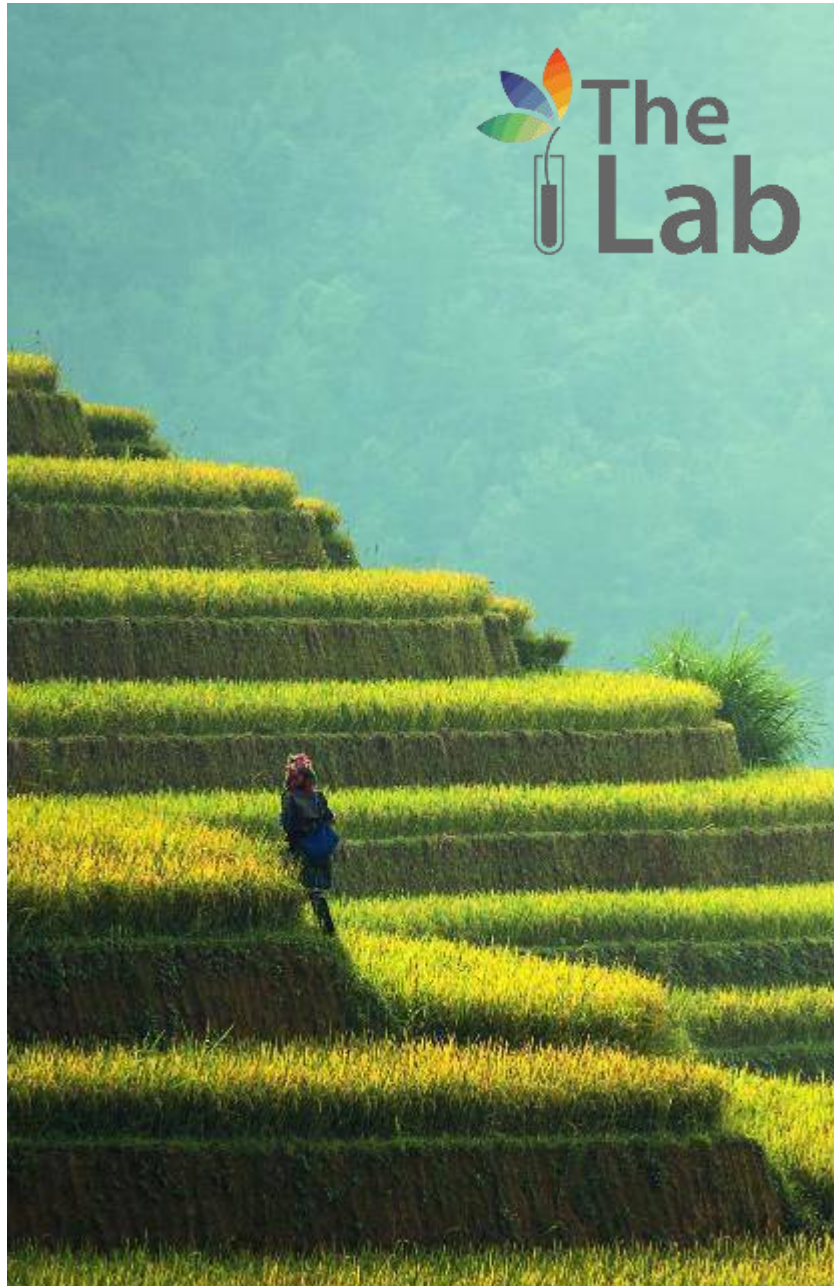
The Climate-aligned Finance Tracking Group is a network of experts that aims to achieve greater impact and scale in climate finance by improving and aligning tracking efforts.

Steering Committee Members:  
AFD, ClimateWorks, EBRD, EFI, EIB,  
BMU, Grantham, I4CE, IADB,  
OECD, UNEP-FI, UNFCCC, WBG

## Broader interpretation to include investment decision-making

### Flows only perspective to article 2.1c

	<b>FINANCIAL FLOWS</b>	<b>INTEGRATION OF CLIMATE CHANGE INTO DECISION-MAKING</b>
<b>BANK LENDING</b>	LOANS	LOAN APPROVALS; GOVERNANCE, STRATEGY AND RISK MANAGEMENT PROCESSES
<b>BOND MARKETS</b>	BOND ISSUANCE	BOND DISCLOSURE AND LISTINGS RULES
<b>LISTED EQUITY</b>	EQUITY ISSUANCE, IPOS, RETAINED EARNINGS	CORPORATE DISCLOSURE AND LISTINGS RULES; GOVERNANCE, STRATEGY AND RISK MANAGEMENT PROCESSES
<b>PRIVATE EQUITY</b>	VENTURE CAPITAL, PRIVATE EQUITY FUNDS	MEMORANDUMS AND RISK MANAGEMENT PROCESSES
<b>INSURANCE AND REINSURANCE</b>	UNDERWRITING POLICIES AND PREMIUMS	GOVERNANCE, STRATEGY AND RISK MANAGEMENT PROCESSES
<b>ASSETS UNDER MANAGEMENT</b>	ASSET ALLOCATION AND DIVESTMENT POLICIES/MANDATES	ASSET ALLOCATION AND DIVESTMENT POLICIES/MANDATES
<b>FINANCIAL SERVICES</b>	TBC	CREDIT RATING DECISIONS; INVESTMENT CONSULTANT ADVICE



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

\$1.9bn mobilized

# The Lab brings together over 60 institutions to address the sustainable investment gap

## Funders



## Members



## Past Funders



## Secretariat



## Contact –

CPI: [www.climatepolicyinitiative.org](http://www.climatepolicyinitiative.org)

The Lab: [www.climatefinancelab.org](http://www.climatefinancelab.org)

USICEF: [www.usicef.org](http://www.usicef.org)

Global Landscape of Climate Finance:  
[www.climatefinancelandscape.org](http://www.climatefinancelandscape.org)

 @climatepolicy

 @climatepolicyinitiative



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# Thank You



# Unlocking investment for climate action in infrastructure and mobility

#LDNClimateAction

Chair: Barbara Buchner

Panelists:

Ashufta Alam, Deputy Director, International Climate Finance: Policy and Investments, UK Department for Business, Energy and Industrial Strategy

Abyd Karmali, Managing Director, Climate Finance, Bank of America Merrill Lynch

Meryam Omi, Head of Sustainability and Responsible Investment Strategy, Legal & General Investment Management

Nancy Saich, Chief Climate Change Expert, European Investment Bank

# Lab instrument showcase

#LDNClimateAction

Chair: Michael Liebreich

Hein Gietema, Water Financing Facility

Thomas Motmans, Cooling as a Service

Jay Koh, Climate Resilience and Adaptation  
Finance & Technology Transfer Facility

Agustin Silvani, Restoration Insurance Service  
Company for Coastal Risk Reduction

Pedro Moura Costa, Responsible Commodities  
Facility



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**Water  
Finance  
Facility**

Driving private finance

*Hein Gietema*

1<sup>st</sup> July 2019

# Our Approach

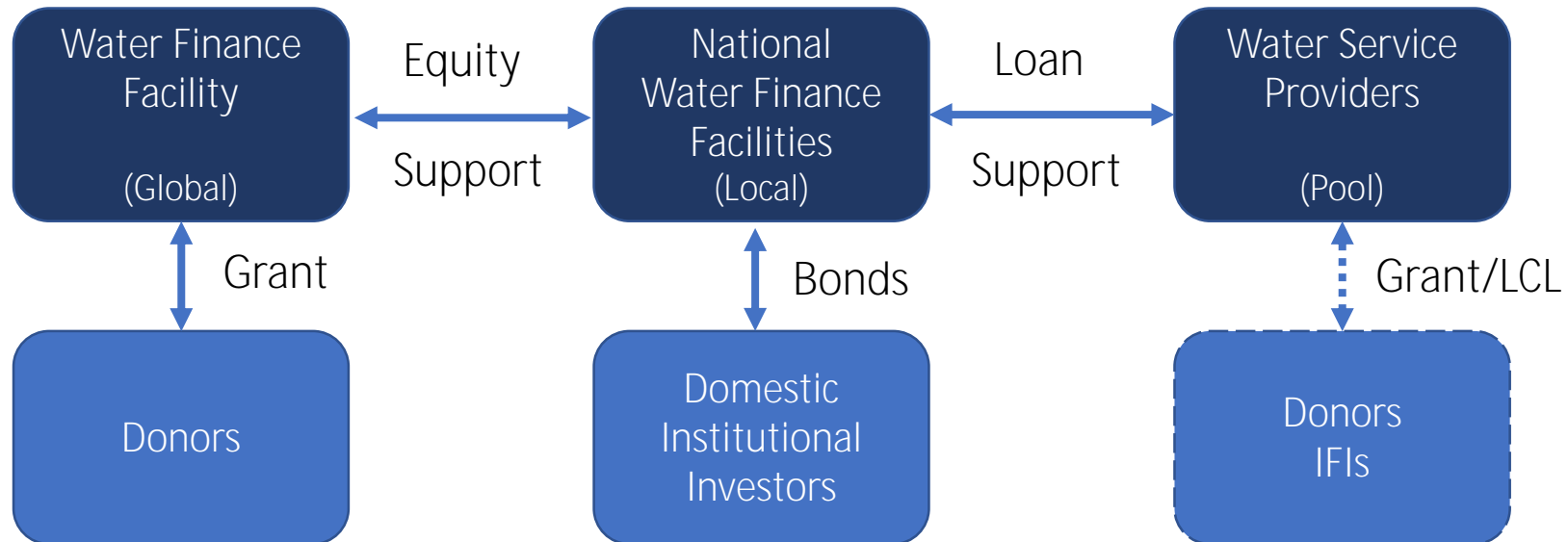
The Water Finance Facility (WFF):

- Set up national water finance facilities
- Mobilize domestic capital from institutional investors
- Support Project Development
- Provide Transaction Support
- Finance credit worthy water service providers (WSPs)

# WFF is part of leading LCX platform



# WFF Structure - simplified



# Progress and Impact

## Kenya

- Well established governance, guarantee and operational structures
- Engaged with 14 WSPs, now 2 lined up for 1<sup>st</sup> Loans (USD 5 mio Q4), another 2-3 for 2020 as well as for 2021 (USD 10 mio each year)
- Final documents to be signed by government delays processes

## Other

- Progressing in Indonesia
- First assessment West Africa (francophone countries)

# Achieving Scale

## Target

- USD 1 billion in local currencies
- 5-8 countries
- 20 million people connected

## Support welcome

- WFF business development
- Setup National WFFs
- First loss, guarantees to comfort local capital markets
- Support project development for WSPs





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Bank of America  
Merrill Lynch 



# Water Finance Facility

HEIN GIETEMA  
FUNDING & STRUCTURING

m | +31(0)653429075

e | [h.gietema@waterfinancefacility.com](mailto:h.gietema@waterfinancefacility.com)

Mauritskade 63 | 1092 AD Amsterdam | NL

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Facility



**Cooling as a Service**  
Refresh the planet



*Driving investment in  
sustainable energy*



COOLING EFFICIENCY PROGRAM

# The Challenge and the Opportunity

- 1.6 billion ACs today, + 10 ACs/sec.
- Demand x 3 by 2050 (= 30% World electricity today)
- 6.9 trillion USD market over next 30y

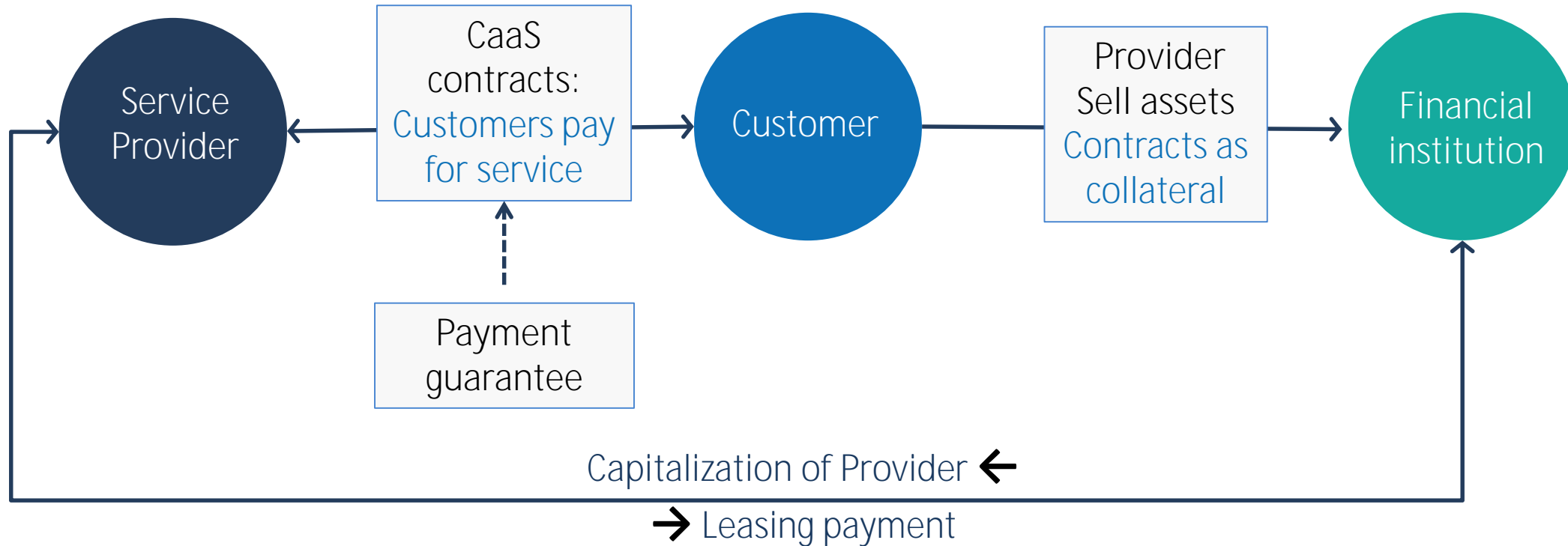
EE cooling systems have higher CAPEX and lower OPEX than conventional systems.  
Investment decision sensitive to purchase price.



# Cooling as a Service (CaaS) model



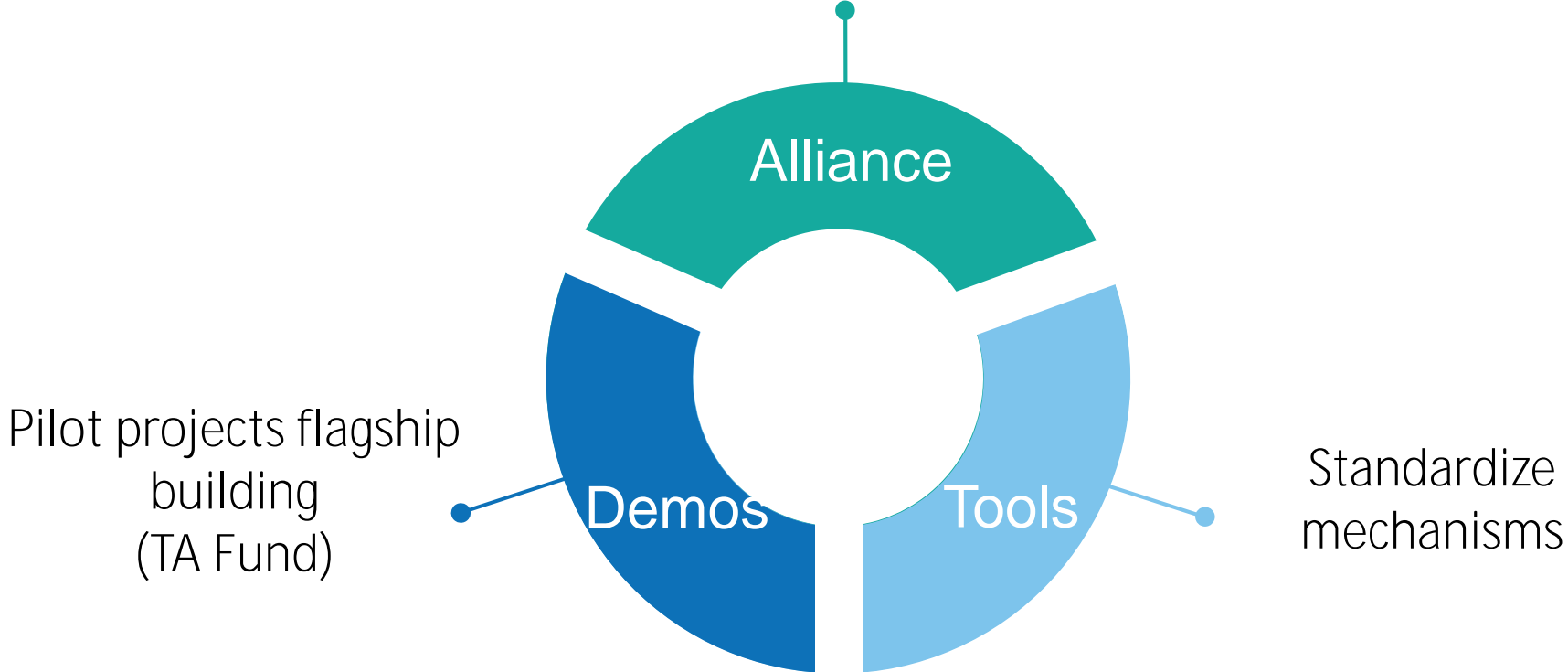
- Pay-per-service model
- Capex to Opex (inc. maintenance, operation, electricity)
- Provider owns equipment: no performance risk
- Circular economy
- Capitalization of providers through sale-leaseback



# CaaS Initiative



Institutionalize CaaS globally (fund)



## Looking for partners

Developers/Real state/Manufacturers/PE funds

- Sustainable cash-flows
- Competitive risk-return

Banks, financial entities

- Sale-Leaseback deals
- Stable yields

Insurance

- Providing risk mitigation solutions

Associations

- Strategic partnerships



**Cooling as a Service**

Thomas Motmans

[thomas.motmans@energy-base.org](mailto:thomas.motmans@energy-base.org)

[www.caas-initiative.org](http://www.caas-initiative.org)



*Driving investment in  
sustainable energy*



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Pedro Moura Costa, Responsible Commodities  
Facility



The **Lightsmith** Group

# CRAFT – Climate Resilience & Adaptation Finance Technology-transfer Facility

1 July 2019  
London, UK



## Instrument Showcase

Contact:

Jay L. Koh  
[jay.koh@lightsmithgp.com](mailto:jay.koh@lightsmithgp.com)

Sanjay J. Wagle  
[sanjay.wagle@lightsmithgp.com](mailto:sanjay.wagle@lightsmithgp.com)



STRICTLY CONFIDENTIAL AND TRADE SECRET

# Executive Summary

CRAFT: First private investment strategy  
focused on climate resilience and adaptation

- + Experienced, well-positioned team
- + **Specialist growth investment strategy** focused on “climate resilience” intelligence and solutions
- + Three innovations:
  - + Blended Finance Structure
  - + Aligned TA Facility
  - + Impact Measurement
- + Great potential impact

# The Team

+The Lightsmith partners each have over 20 years of experience in:



... and are supported by strong partners:



# The Challenge

+ Climate change is increasing risk and impact now....



BUSINESS

## PG&E: The First Climate-Change Bankruptcy, Probably Not the Last

The fast fall of PG&E after California's wildfires is a jolt for companies considering the uncertain risks of a warming planet

...but >6% of climate finance is focused on adaptation, and almost nothing systematic in the private sector

# The Opportunity

+ Find and scale up “tools” to build climate resilience

## “Intelligence” Companies

Flood Modeling



## “Solutions” Companies

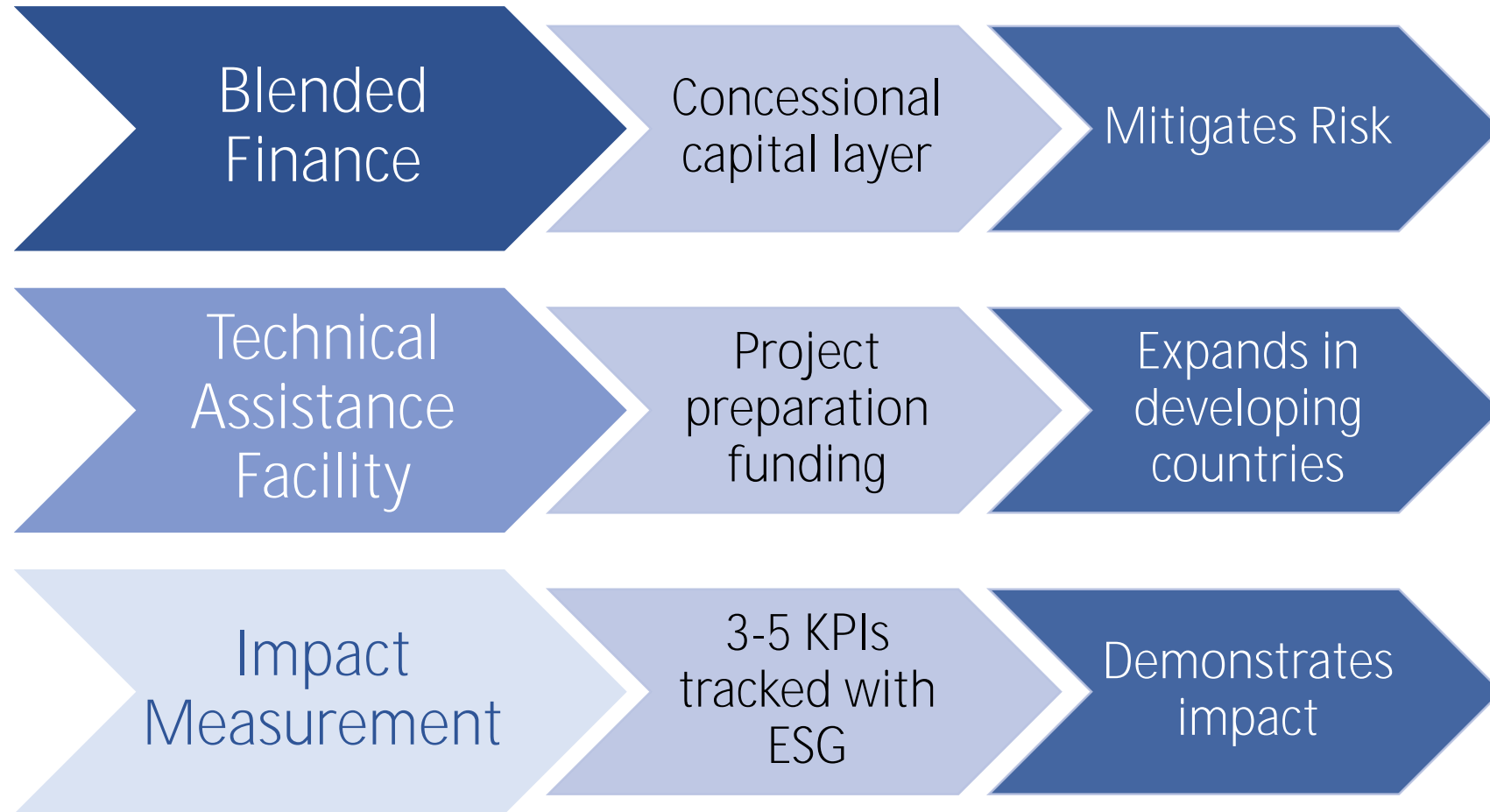
Water Harvesting



Current addressable market: 20 subsectors linked to resilience, growing 20-30% CAGR, totaling \$130 billion

# The Innovation

+CRAFT integrates three innovations:



# Blended Finance + TA Facility

- + Concessional mobilizes 4X to 20X+ non-concessional investment
- + TA Facility applies solutions to LICs, SIDs, vulnerable populations

Financing	Amount*	Financial Return	Impact
Non-Concessional Investment	80% <i>(e.g., \$200M)</i>	Commercial returns	Direct impacts from investments
Concessional Investment	20% <i>(e.g., \$50M)</i>	Concessional returns; offers risk mitigation	Crowds-In non-concessional capital; Demonstration effect
Total	100% <i>(e.g., \$250M)</i>		
TA Facility	\$20M	Grant capital; no financial returns	Apply resilience solutions in LICs, SIDs

*\*Note: Amounts are provided for illustrative purposes only.*

# Impact Measurement

+ Impact Measurement System (IMS) maps 3-5 KPIs against Climate Action, SDGs, and gender



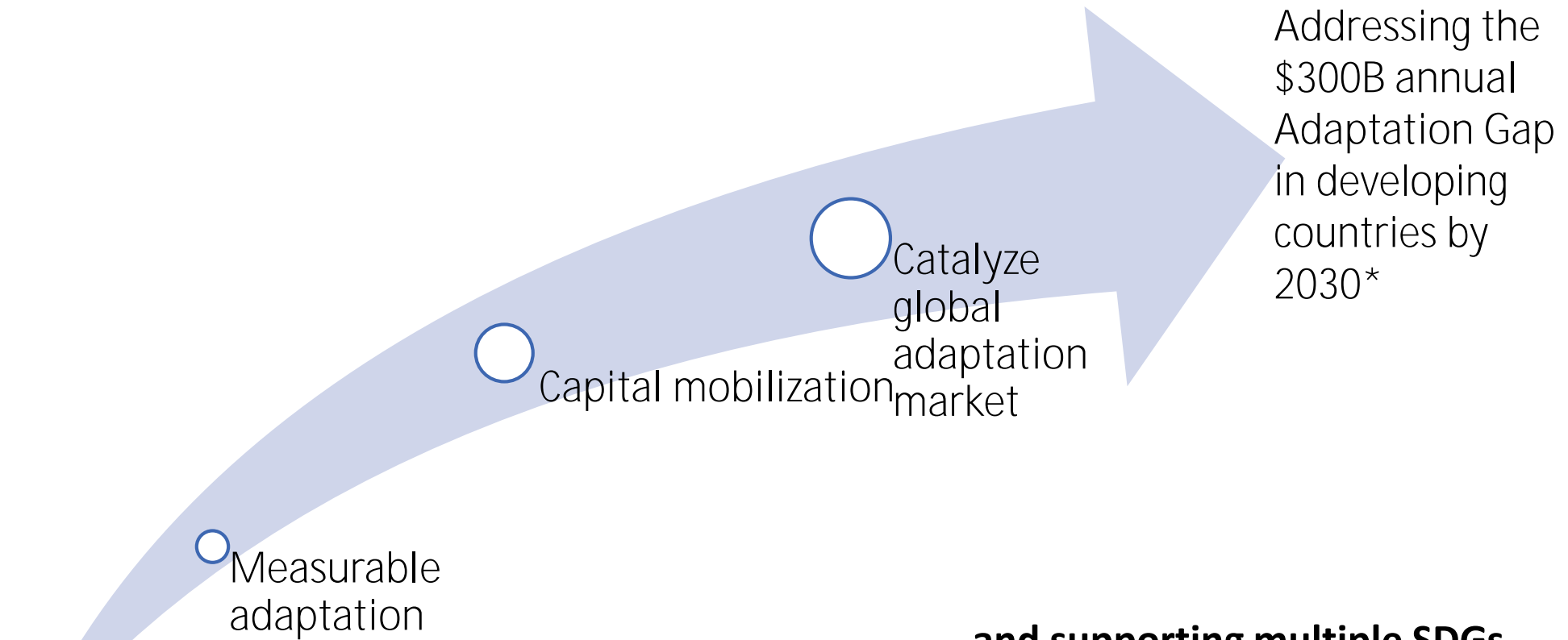
## Gender

- Extreme weather: 5X more women die from natural disasters (LSE 2007)
- Agriculture: 2/3 of women in developing countries are in agricultural work (UN)



# The Impact: Closing the Adaptation Gap

+ The first private investment strategy focused on adaptation and resilience



**...and supporting multiple SDGs**



\*Source: UNEP

# Next Steps

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For more information, please contact:



Jay Koh  
[jay.koh@lightsmithgp.com](mailto:jay.koh@lightsmithgp.com)



Sanjay Wagle  
[sanjay.wagle@lightsmithgp.com](mailto:sanjay.wagle@lightsmithgp.com)

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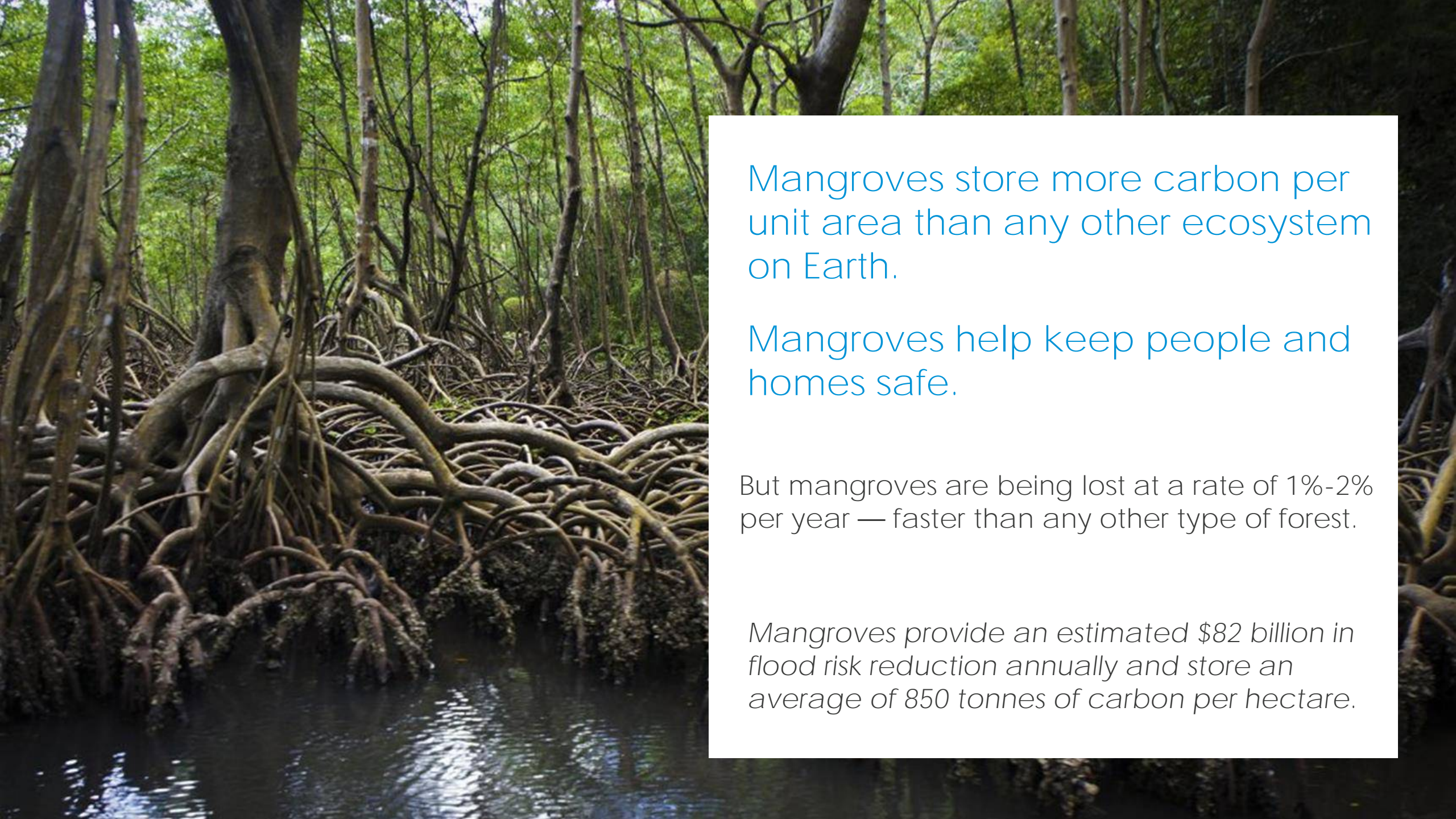
CONSERVATION  
INTERNATIONAL



RISCO  
RESTORATION  
INSURANCE  
SERVICE  
COMPANY

ADAPTATION





Mangroves store more carbon per unit area than any other ecosystem on Earth.

Mangroves help keep people and homes safe.

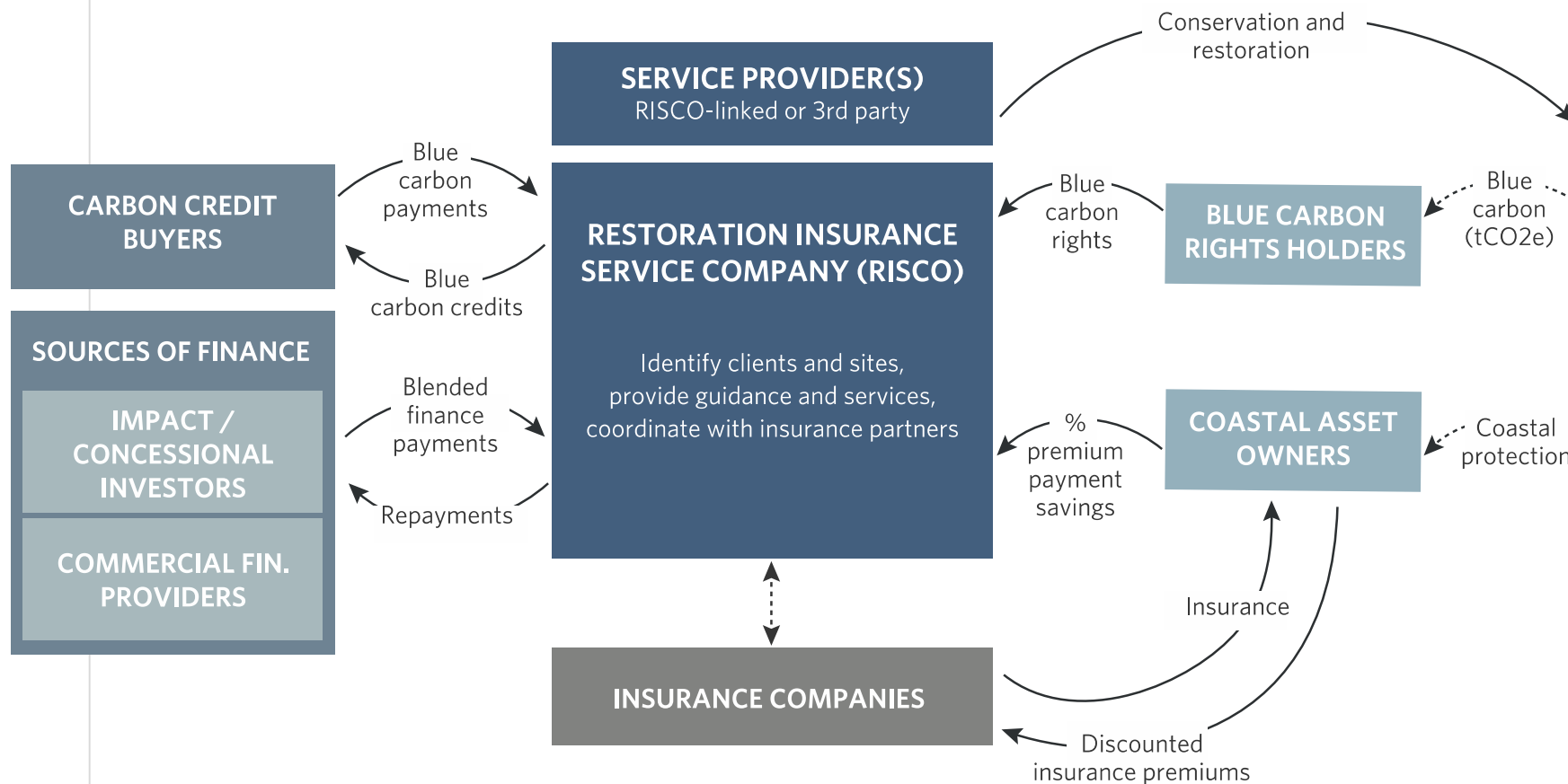
But mangroves are being lost at a rate of 1%-2% per year — faster than any other type of forest.

*Mangroves provide an estimated \$82 billion in flood risk reduction annually and store an average of 850 tonnes of carbon per hectare.*

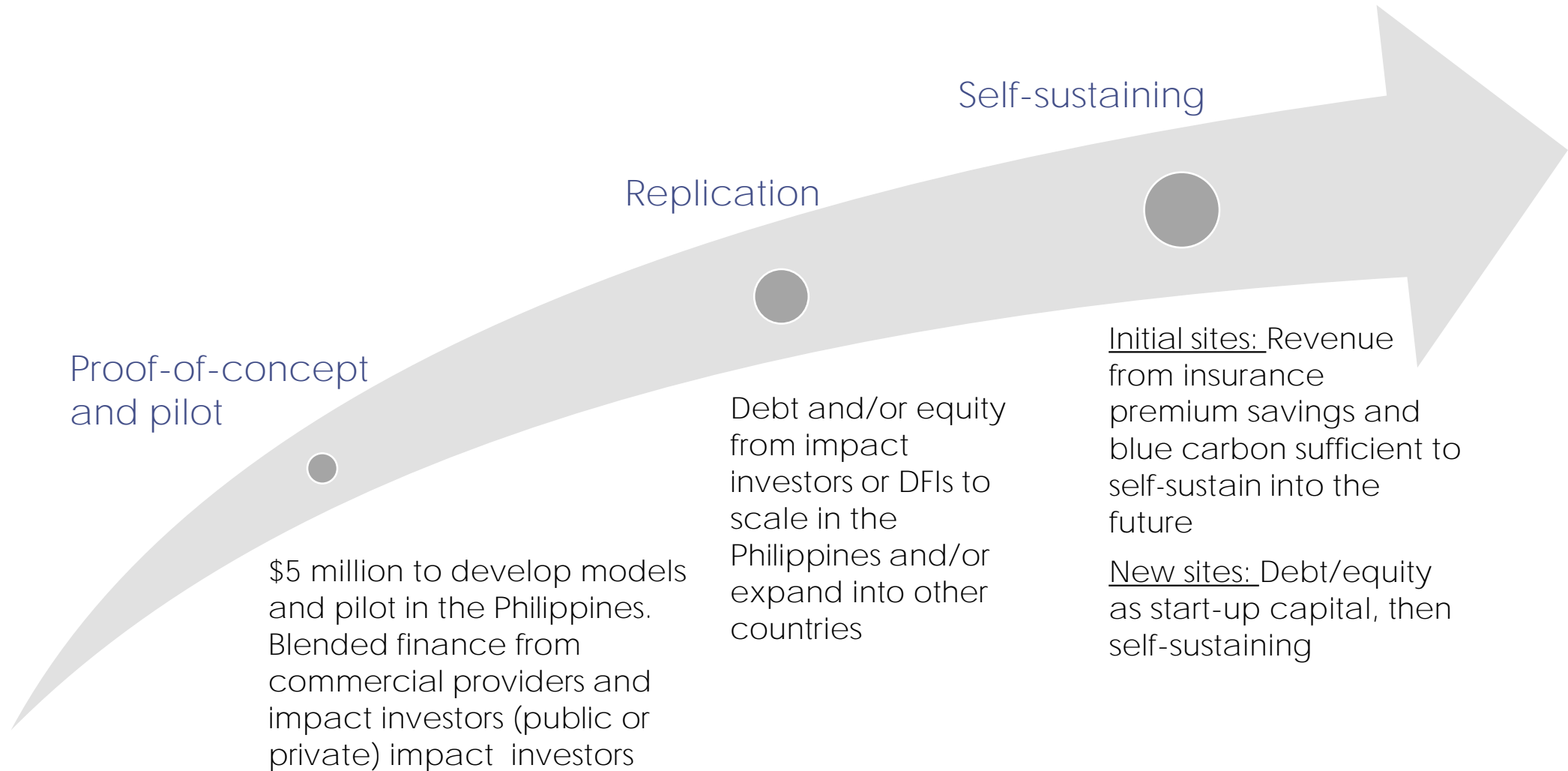
A photograph of a mangrove forest. The foreground is dominated by a dense, intricate network of thick, light-brown aerial roots (prop roots) that arch over a narrow waterway. The background shows a dense canopy of green mangrove trees. The text "RESTORATION AS A SERVICE" is overlaid in white, sans-serif capital letters across the middle of the image.

# RESTORATION AS A SERVICE

# Instrument Mechanics : Philippines Pilot



# Financial Sustainability: Attracting Private Investment





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# Responsible Commodities Facility

Providing finance for the production and trading of responsible soy from Brazil



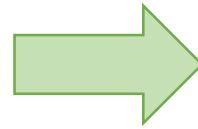
# Soy expansion is resulting in deforestation of Cerrado...

5 million ha needed until 2027

However, 3 times more land is available,  
already cleared

# 2017 – A Cerrado Manifesto

A plea/pledge to redirect expansion of soy from native Cerrado to existing cleared land



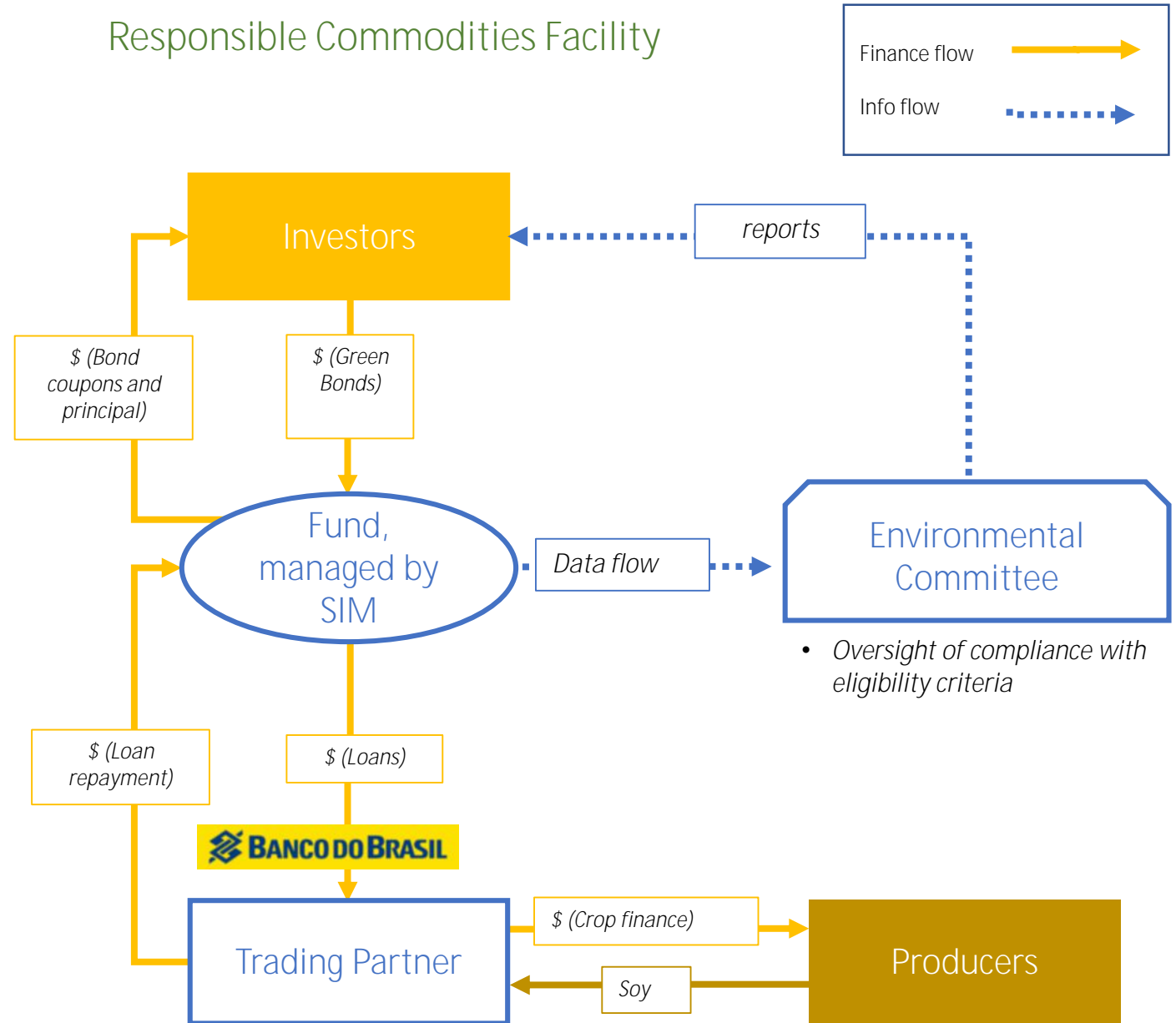
Signed by more than 200 corporations and NGOs, including:



# RCF Approach

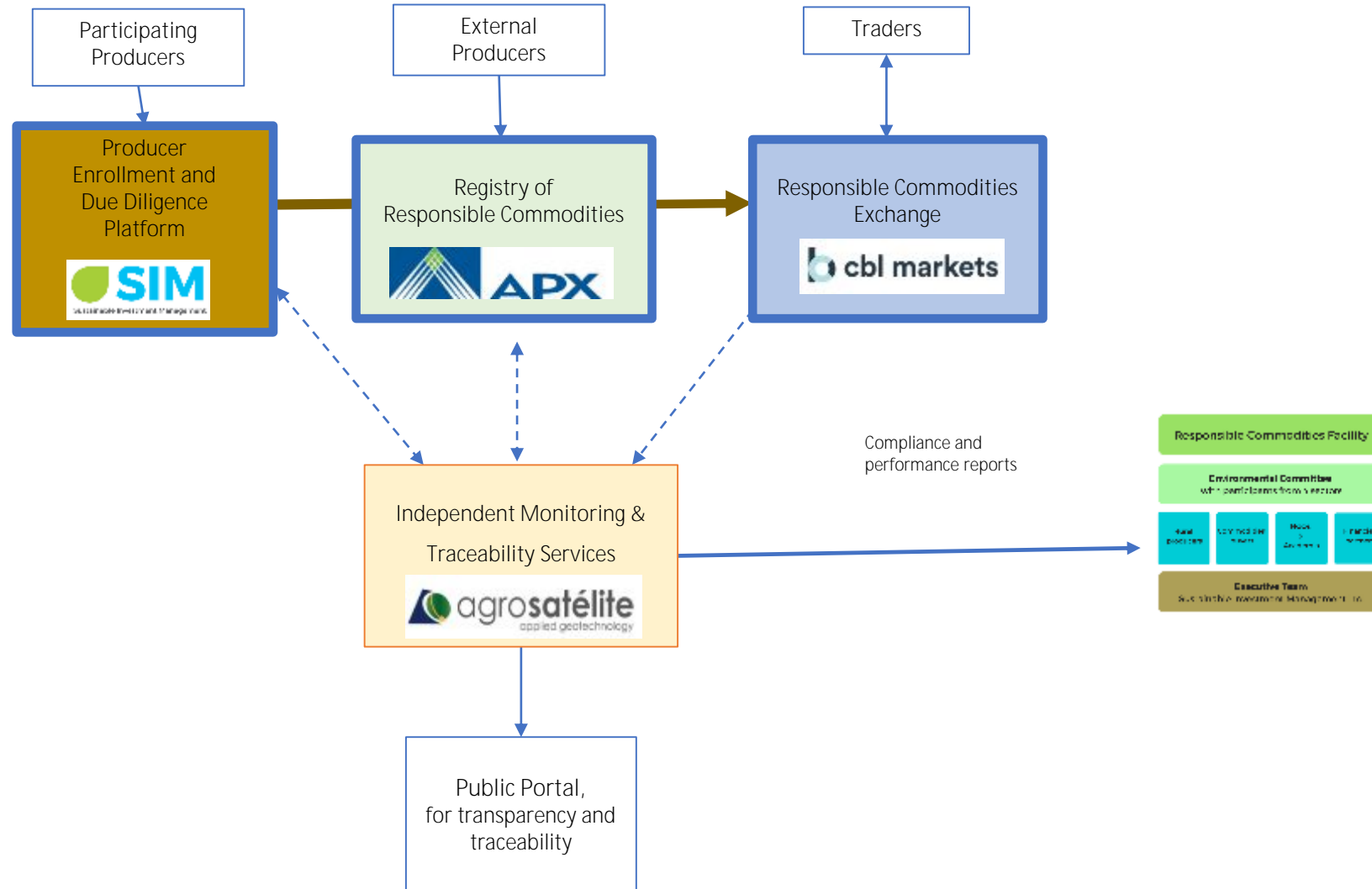
- Provide finance to farmers that meet its Eligibility Criteria
- Capitalized by Green Bonds
- In partnership with traders and Banco do Brasil

## Responsible Commodities Facility





# A new Registry and Exchange for DCF-soy





## Impact – USD 1 billion, 10 years

**> 1000 farms**

- Receiving Crop financing

**180 Mt grain**

- Over 10 years (both soy and corn)

**200,000 ha**

- Unproductive land restored to agriculture

**> 800,000 ha**

- Natural Vegetation conservation and/or regeneration in Legal Reserves

**> 250 MtCO<sub>2</sub>e**

- Reduced CO<sub>2</sub>e emissions



# Annexes



# Institutional support and partnerships



**GREAT** *for* **PARTNERSHIP**  
BRITAIN & NORTHERN IRELAND



MOU to support the development of the Responsible Commodities Facility



UK Government fund – financial support to the development of the Facility



Letter of Intent to make a catalytical investment in the Facility to generate quantified environmental impacts



Endorsement by 60+ leading public and private investors who make up the Lab network



Provided seed funding for the development of concept



Working with the Facility to develop new credit lines for Brazilian farmers



Working with the Facility to develop a new standard for green bonds for the agricultural sector



Working with the Facility to structure legal frameworks for green bonds for the agricultural sector

# Our Team



## Pedro Moura Costa - Founder and CEO, UK

over 25 years experience on forestry, climate and environment sector, co-founder and director of BVRio Environmental Exchange, co-founder and former President of EcoSecurities Group Plc., the world leader in greenhouse gas mitigation and carbon trading, listed in the London AIM stock exchange; author of >100 publications including IPCC reports recognized with 2007 Nobel Peace Prize; PhD from University of London.



## Mauricio Moura Costa - Founder and COO, Brazil

over 25 years of experience in commercial and financial law, M&A, banking and finance, capital markets and general contracting. Co-founder and director of BVRio Environmental Exchange. Formerly, country director of EcoSecurities Group Plc. Brazil; managing partner of Castro Barros & Sobral (São Paulo) and Rodrigues & Moura Costa (Lisboa, Portugal). Doctor in Economic Law from Université de Paris II (Panthéon-Sorbonne), with many articles published in the subject of economic law.



## Jose Tumkaya – CFO, UK

over 17 years of corporate finance, strategic M&A and direct operating experience in energy and commodities within physical trading, investment banking and start up organisations. Formerly, executive director of the Commodities Principal Investments division of JP Morgan, COO of EcoSecurities Group Plc, and Investment Director of **Mercuria Energy Trading, leading the US\$ 800 m acquisition of JP Morgan’s global physical commodities business. BSc in Economics at Wharton School (Pennsylvania), and MBA at Columbia and London Business Schools.**



## Shaun Kingsbury CBE – Chairman

former CEO of the UK Green Investment Bank, previously served as an Investment Partner at Hudson Clean Energy Partners, a leading clean energy private equity firm where he was responsible for its European activities. He is a long time renewable energy investor and advisor having been a founding partner of Pulsar Energy Capital and an advisor to 3i on a number of renewable energy transaction opportunities in Europe.

# Our Team



## Arnaldo Carneiro – Senior Environmental Advisor

over 30 years experience in land use dynamics, led the creation of the Territorial Intelligence Nucleus of the Brazilian Presidency, former director of Agroicone and Senior Reseracher and the Amazon Reserach Institute (INPA), and coordinated strategy on soy supply chain for Global Canopy and Trase (trase.earth). Arnaldo is an Agronomist from Esalq-USP (Brazil), MSc at the International Institute for Geo-Information Science (Netherlands), PhD at the University of Strasbourg, France and post-doctorate at the University of Wageningen, (Netherlands).



## Etienne Amic – NED, trade and finance

over 20 years experience in commodities trading, previously Head of European Energy of Mercuria Energy Group, Managing Director at J.P. Morgan where held a number of senior roles in trading, sales and principal investments, Global Head of Commodities at Credit Agricole CIB, and a trader at TOTAL. Founder of EnAlgo, which develops energy trading technology, and Chairman of Vortexa, a leading oil data and analytics provider. Etienne holds a MSc. in Quantum Physics, a Ph.D. in Theoretical Physics from Université Paris Jussieu, a MSc. in Financial Markets from Université Paris Dauphine and a MSc. in Mines Engineering from ParisTech.



## Michel Gutnik – Senior Associate, Trading & Finance, Brazil

over 22 years experience in corporate finance, banking and entrepreneurship, responsible for the execution of more than BRL 6 billion in deals. Seasoned investor in the Brazilian grains business sector. Previously, Partner at Banco Brasil Plural, Managing Director of Equity Derivatives at Natixis Brasil, investment banker at Banco Pactual. BSc in Engineering at PUC-Rio, post-graduate in Marketing at FGV Rio de Janeiro, and MBA at NYU Stern School of Business New York.



## Alex Cong Zhang – Investment Manager, UK

over 7 years of experience in renewable energy investment, fundraising and M&A advisory. Alex was formerly an investment executive at the UK Green Investment Bank Offshore Wind Fund (now part of Macquarie Infrastructure and Real Assets), where she was a key member in the fundraising, investment and asset management aspects of the fund business. Previously Alex worked as an M&A Analyst at Société Générale Power & Utility team. BSc in Mathematics with Statistics for Finance from Imperial College London.

# Lab instrument showcase

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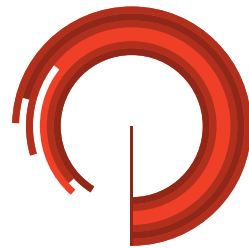
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