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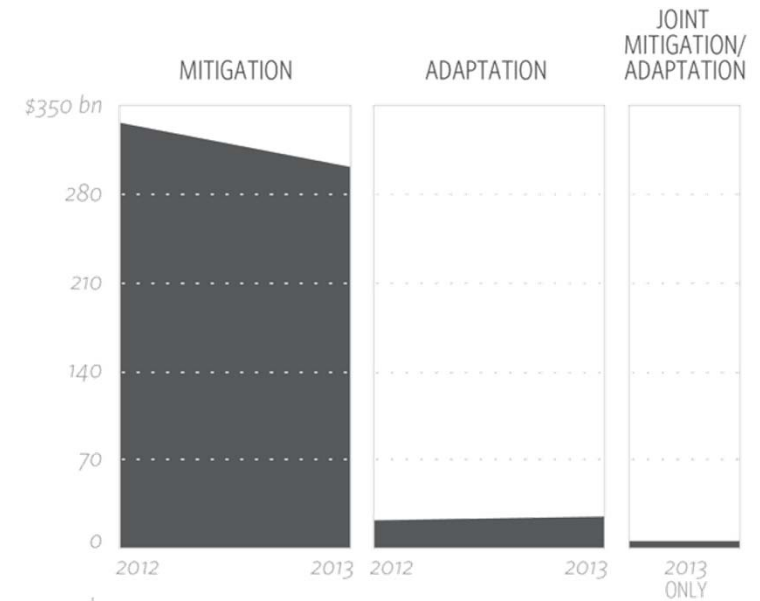
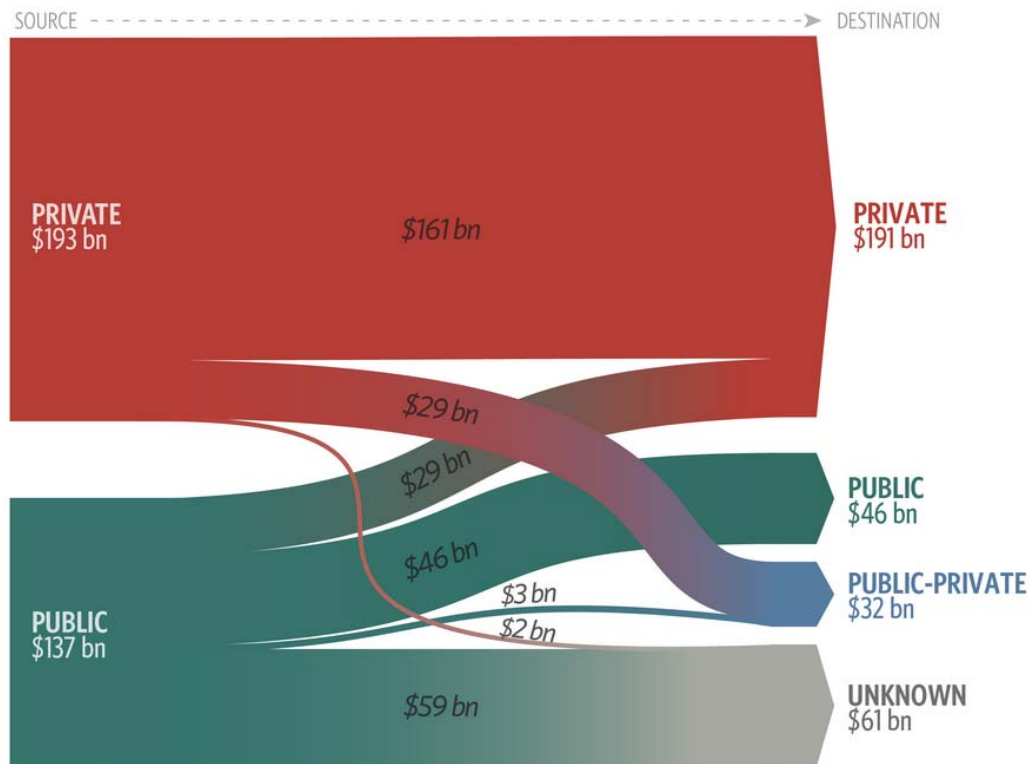
# Private Sector and Adaptation

Adaptation Committee: Workshop on the means of implementation for  
enhanced adaptation action

**Bonn, March 2-4, 2015**

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IFC, World Bank Group

# Climate finance 2013 - first recipients, uses of finance



# Private sector, adaptation “roles”



## Businesses at risk from direct and indirect climate change related impacts

- Financial, environmental and social risks emanating from direct impacts; changes in the market demand and supply; etc.

## Businesses providing adaptation products and services

- E.g. technologies for increasing resilience, climate services, infrastructure solutions, etc.

## Providers of finance for adaptation and resilience

- E.g. earmarked credit lines, project financing, Green Climate Fund, and similar.

# Businesses at risk from direct and indirect CC related impacts (example)

- La Roya, Nicaragua
- Project size US\$ 30,000,000



## RISK

Coffee plantations in the area are affected by coffee rust, which proliferates with increasing temperatures and changing precipitation.

## ADAPTATION SOLUTION

Planting resilient coffee varieties and using best management practices will contribute to adapting to the impacts of climate change.

# Businesses providing adaptation products and services (example)

- Kaiima, Kazakhstan
- Adaptation investment US\$ 17,000,000

## RISK

Castor crops are affected by rising temperatures and changing water availability. 79% of the annual precipitation from the Aral Sea flows as seasonally delayed melt water from glaciers.

## ADAPTATION SOLUTION

To make seeds more adapted to the changing circumstances, Kaiima develops hybrid castor seeds more resilient using the climate projections of temperature and precipitation and crop development models as baseline.

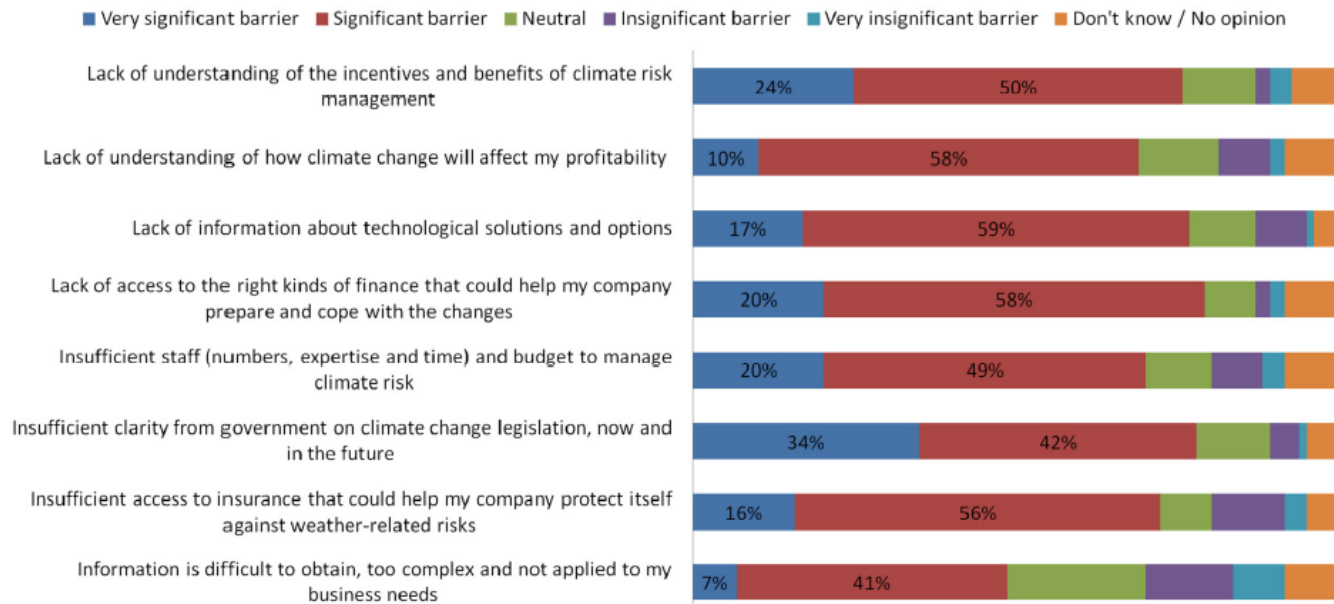


## Providers of finance (example)

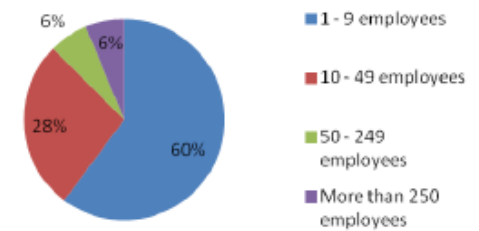
- Green Bonds: instruments for financing projects with environmental benefits; a focus on climate change
- World Bank Treasury issued the first green bond in 2008
- IFC Treasury issued \$3.4 billion in green bonds, including two \$1 billion benchmark sales that helped develop the market (proceeds for RE, EE projects).
- More than \$30 billion in circulation. Diversification of currency, tenor, issuers, including municipalities and corporates:
- GDF Suez, May '14, 2.5 billion euro offering, 3x oversubscribed
- Unilever, March '14, \$374 million, for emissions reduction, water use and waste
- Toyota Motors, \$1.6 billion, March '14, hybrid vehicle financing

# Private Sector Adaptation: Gaps and Barriers

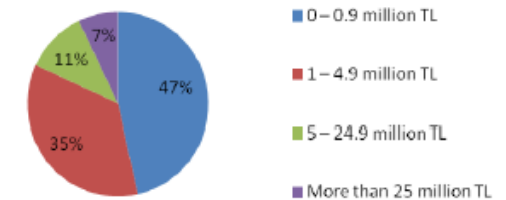
What do you view as the main barriers preventing your business from understanding and taking action to adapt to a changing climate? (n=90)



What is the size of your company (n=128)



What is your company annual revenue? (n=127)



# Creating an enabling environment

- G20 Dialogue Platform on Inclusive Green Investment
- Practical and implementable interventions
- Significant potential for investment risk reduction and higher investment flows towards adaptation

## Data and information

1. Climate and hydrological projections
2. Direct and indirect impacts
3. Adaptation measures, costs and benefits
4. Community vulnerability, risk and adaptation

## Institutional arrangements

5. Institutions and forums

## Policies

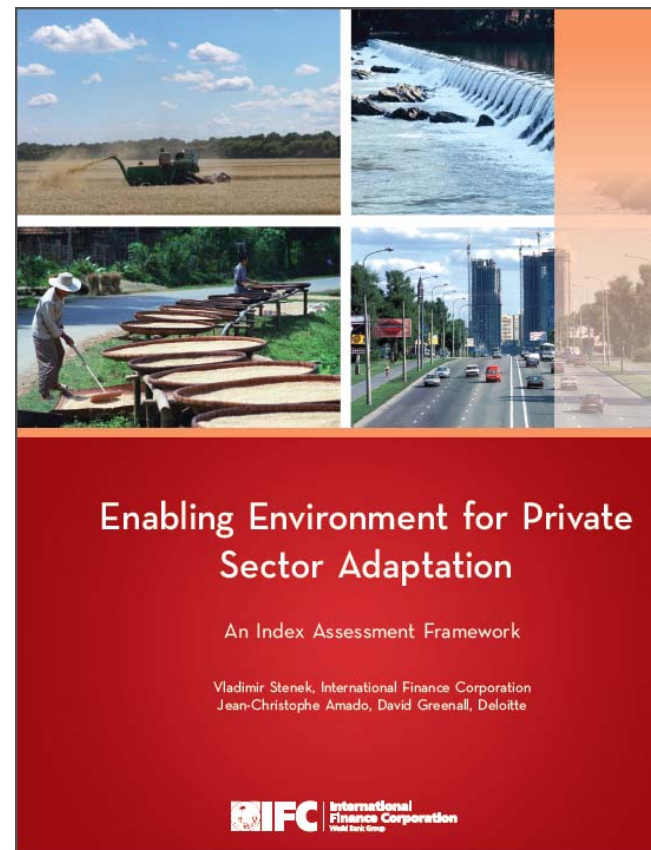
6. Building standards and/or codes
7. Public infrastructure
8. Local zoning rules
9. Permitting and impact assessments
10. Investor relations and/or stakeholder management

## Economic incentives

11. Government incentives
12. Finance
13. Full-cost accounting for water and energy
14. Environmental trading markets

## Communication, technology and knowledge

15. Information and communication technologies
16. Technology and knowledge





# Enabling Environment for Private Sector Adaptation

## INDICATOR 1: Climate and Hydrological Projections

Description	Measures	Costs	Benefits	Business case summary
National climate (e.g. temperature, precipitation, humidity, solar radiation/cloud cover and wind) and/or hydrological (e.g. soil moisture, groundwater, runoff, evaporation, flood/drought) projections based on calibration and validation of climate and hydrological models	<ul style="list-style-type: none"> <li>Free access to data/information from a national or international body (e.g. government department, public agency, research center, donor organization)</li> <li>Data available electronically</li> <li>Data available in both raw format as well as maps or maps (e.g. cumulative frequency distribution)</li> </ul>	<ul style="list-style-type: none"> <li>Installation, operation and maintenance of hydro-meteorological observation network</li> <li>Climate modeling capability</li> </ul>	<ul style="list-style-type: none"> <li>Avoided loss and damage from climate-related hazards</li> <li>Avoided business interruption</li> <li>Better mid- to long-term planning and/or design decisions</li> </ul>	The costs of producing climate and hydrological projections are likely outweighed by potential avoided costs and increased revenue opportunities

## INDICATOR 6: Building and Infrastructure Standards and/or Codes

Description	Measures	Costs	Benefits	Business case summary
Building standards and/or codes incorporating climate change impact and adaptation considerations	<ul style="list-style-type: none"> <li>National and/or local building standard/code updated to incorporate climate change impact and adaptation considerations (e.g. revised maximum temperature design criteria) and/or building standard/code promoting climate change adaptation considerations</li> <li>Published building standard code adaptation considerations</li> </ul>	<ul style="list-style-type: none"> <li>Costs to update building standards and/or codes</li> <li>Enforcement and training costs</li> <li>Compliance costs (e.g. additional design features)</li> </ul>	<ul style="list-style-type: none"> <li>Improved property value</li> <li>Avoided loss and damage from climate-related hazards</li> <li>Lower maintenance and operation costs over time, as well as reduced risk of damage</li> </ul>	Codes and/or standards increasing resilience against hazards have achieved reductions in loss and damage—American

## INDICATOR 8: Local Zoning Rules

Description	Measures	Costs	Benefits	Business case
Local zoning rules incorporating climate change impact and adaptation considerations for new and/or existing infrastructure/buildings in areas vulnerable to climate change (e.g. floodplains, coasts)	<ul style="list-style-type: none"> <li>Zoning rules with climate change impact/adaptation considerations (e.g. sea level rise estimates, revised flood zones)</li> <li>Absence of zoning rules promoting maladaptation practices (e.g. reduced coastal protected areas which could increase vulnerability to sea level rise and rising storm surges)</li> <li>Zoning rules with climate change impact/adaptation considerations beyond individual or councils</li> </ul>	<ul style="list-style-type: none"> <li>Costs to develop and/or amend local zoning regulations</li> <li>Compliance costs (e.g. siting, design and construction requirements)</li> <li>Possibly higher capital costs</li> <li>Enforcement and training costs</li> </ul>	<ul style="list-style-type: none"> <li>Increased government revenue opportunities due to higher attractiveness (e.g. local tax or levies)</li> <li>Improved property value</li> <li>Increased revenues thanks to emerging opportunities (e.g. engineering services)</li> <li>Expected project/asset useful life maintained</li> <li>Avoided loss and damage from climate-related hazards</li> </ul>	The costs of developing and enforcing new/amended zoning are outweighed by the protection of developments against rising weather-related loss and damage

## INDICATOR 12: FINANCE

Description	Measures	Costs	Benefits	Business case
Public and/or private finance instruments (e.g. loans, equity, guarantees) for climate change adaptation, including planning, implementation, purchase of equipment and material and innovation/R&D, in the private sector	<ul style="list-style-type: none"> <li>Finance instruments for the private sector (e.g. loans, equity and/or guarantee products) in support of one or several of the following:                             <ul style="list-style-type: none"> <li>Climate change adaptation planning (e.g. risk/adaptation assessments, strategies/plans, consultations)</li> <li>Implementation actions (e.g. construction of climate resilient assets, improvements to existing assets to maintain/increase asset useful life and/or reduce vulnerability, insurance policy)</li> <li>Purchase of equipment or material (e.g. cooling, equipment for hydrometeorological monitoring)</li> </ul> </li> <li>Innovation, research and development (e.g. research on stress-resistant crops or storm-resistant building design)</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity cost of investing in climate change adaptation</li> <li>Transaction and collection costs, and risk of default</li> <li>Investment risk</li> </ul>	<ul style="list-style-type: none"> <li>Increased investment flows towards adaptation</li> <li>Increased revenue opportunities (e.g. new investment vehicles and investment markets)</li> <li>Increased uptake of adaptation practices reduces loss and damage from climate-related hazards and lowers maintenance, operation and post-disaster repair costs over time</li> <li>Meeting political commitments on climate change adaptation finance</li> </ul>	Provision of finance in the amounts necessary and at a competitive cost is critical to successfully promote private sector adaptation — the fact that private financial institutions have started providing capital for adaptation projects/activities demonstrates that revenue opportunities exist

# Identifying Adaptation Investment Needs and Opportunities

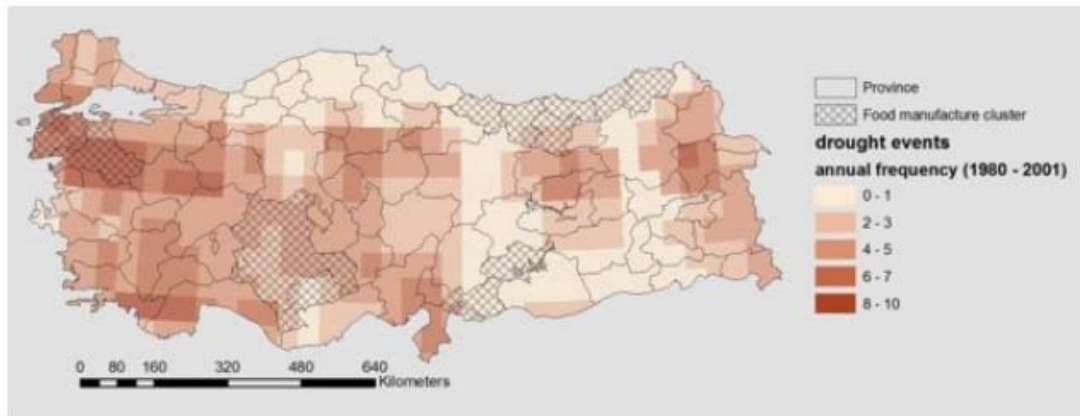
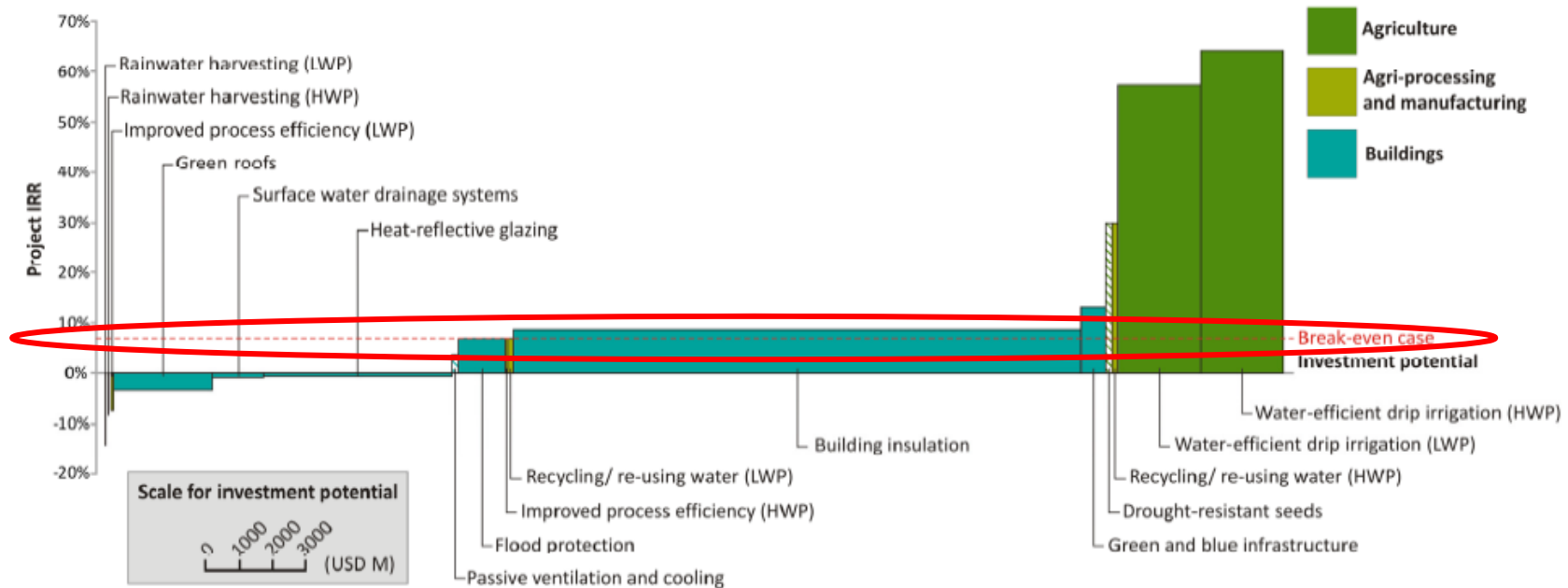
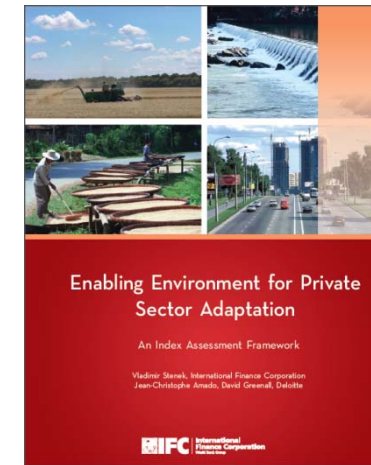


Figure 11: Exposure to drought events<sup>xii</sup>



**Thank you!**

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[www.ifc.org/climaterisks](http://www.ifc.org/climaterisks)

