

# **Private sector action on climate resilience**

## **Experience from middle-income countries**

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# Private sector: roles in adaptation



From small farmers...



to large corporations

## Roles:

- Entities needing adaptation solutions
- Providers of solutions for adaptation
- Providers of financing for adaptation

## Gaps and barriers, e.g.:

- Information
- Time horizons
- Internal resources
- Technological solutions
- Financing
- Policy and regulation

# Identifying and addressing risks and opportunities: needs and opportunities

## ENERGY, HYDROPOWER



Increased flows, flooding  
Additional turbines and/or spillway

## TRANSPORTATION



Sea level rise, flooding  
Change level of roads, materials

## WATER



Increased precipitation variability  
Water storage systems

## INFORMATION TECHNOLOGY



Lack of info (for e.g. agribusiness)  
Weather and climate services

## CONSTRUCTION / R. ESTATE



Increased frequency of heatwaves  
Change in design, insulation

## FOOD AND BEVERAGES



Diminishing water resources  
Water efficient technologies

## AGRICULTURE, FORESTRY



Increase in drought days  
Resilient hybrids, water mangm.

## ANIMAL PRODUCTION



Stress due to increased temp.  
Breed selection, building standard

## MINING



Increased precipitation intensity  
Design of mine, tailings

## COMMERCIAL BANKING



Inadequate SME access to finance  
Instruments to support adaptation

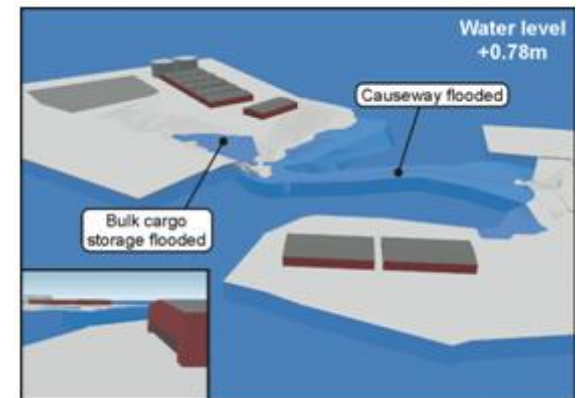
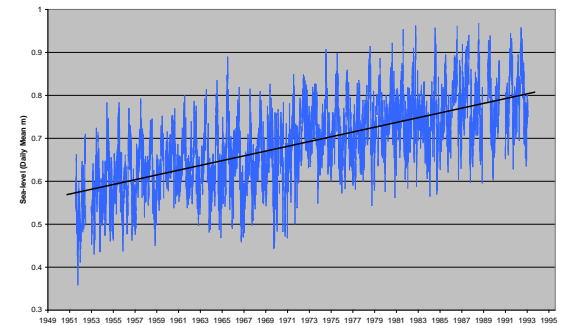
## INSURANCE



Increased impacts of extremes  
Climate indexed instr. (eg. crops)

# Transport: ports and sea level rise

- Port in Colombia, 1% of country's international trade
- Rising sea levels to interrupt business operations with increasing frequency
- Other climate change related impacts on operations and trade
- IFC, with trust fund support, conducted climate risk study
- Key areas for adaptation investments and interventions identified
- Client announced USD 30 million investment accessing funds in a commercial bank



# Manufacturing: promoting water efficiency

- Refit of a paper and pulp mill in Bosnia & Herzegovina
- A highly water-intensive industry
- In a region where summer surface runoff is projected to decrease by 12.5% by 2050 and by 19% by 2100
- EBRD financed the €11 million rehabilitation of the mill (hard loan)
- Feasibility work included an extensive energy & water use audit
- Water availability stress test using climate scenarios up to 2050
- Water savings of 6.3 million m<sup>3</sup> per year identified and incorporated into the refit (water recycling; leak reduction)



# Agriculture: improved irrigation

- Project: expansion of a tomato producer/processor in Ukraine
- Climate vulnerability: projected increase in seasonal water scarcity
- Climate resilience measures: investment in new, water-efficient drip irrigation equipment
- Financing: grant finance for water use audit; USD 20 million non-concessional loan



# Financing modalities and links to climate finance

- Grants: technical assistance, audits, awareness raising, information, policy dialogue
- Loans: investments in tech/equipment/infrastructure to boost climate resilience
- Use of financial intermediaries to reach smaller businesses
- Concessional/non-concessional depending on circumstances

# Issues for discussion

- How can lessons from MICs be useful for LICs?
- How can climate finance be best used to leverage investment in climate resilience?
- How can the PPCR help to overcome barriers to private sector engagement?



# Additional case studies

# Manufacturing: water recovery systems

- Water recovery system for a paper company in Turkey
- Water is the essential resource for the company's output
- Located in an area with diminishing groundwater resources and projected lower precipitation due to climate change
- IFC provided \$8 million loan for water efficiency solution
- Waste water recovery system will reduce the company's exposure to climate risks and increase resource efficiency
- It will enable the company to conserve and re-use thousands of liters of water and, as a result, invest in a new paper machine without the use of a deep drill to gain access to water



# Agribusiness: promoting water efficiency

- Project: equipment upgrade at an oilseed processor in Romania
- Climate vulnerability: projected increase in seasonal water scarcity
- Climate resilience measures: finance for water-efficient processing equipment that reduces water use by 50%
- Financing: grant finance for water use audit; EUR 110 million non-concessional loan



# Agriculture: improved irrigation

- Project: drought-proofing a major sugar beet producer in Russia
- Climate vulnerability: severe impacts of recent heatwaves & droughts; projected further increase in seasonal water scarcity
- Climate resilience measures: investment in installation of irrigation equipment
- Grant funded audit; non-concessional loan of USD 40 million



# Agriculture: drought resistant seeds

- Project: non GM drought-resistant, salt resistant seeds for specific emerging market locations in Asian countries
- Climate vulnerability: increasing variability in precipitation and droughts, heat waves, changes in salinity
- Climate resilience measures: investment in development of more resilient varieties, commercialization of seeds in emerging markets
- Financing: IFC provided USD 12 million equity investment



# Hydropower: preparing for extreme weather

- Project: equipment upgrade at a hydropower plant in Albania
- Climate vulnerability: impacts of severe floods (2009 & 2010); projected increased likelihood of severe weather events
- Climate resilience measures: investment in structural safety (rock fall protection), safety monitoring, operational safety and emergency planning
- Financing: EUR 5.3 million grant financing for feasibility study; EUR 69 million non-concessional loan for physical upgrade



# Industry: coping with sea level rise

- Project: expansion of an acrylic fibre plant in Turkey
- Climate vulnerability: plant has an on-site port terminal for receiving raw materials and dispatching finished products – vulnerable to sea-level rise and storms/floods
- Climate resilience measures: development of an extreme weather risk management strategy in collaboration with meteorological services
- Financing: USD 50 million non-concessional loan

