

The Commercial Law Development Program *Presents* *Public-Private Partnerships Webinar Series*



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PPP Climate Risks (Part I)



Today's presenters



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Today's Agenda

- Role of Government Policy and Plans
- Current Issues and Emerging Trends



Role of Government Policy and Plans



Need to Consider Climate Change Issues in Provision of Infrastructure Services through Public Private Partnerships (PPPs)

- Infrastructure stock vulnerable to hazard events like hurricanes and landslides, as well as to chronic slow changes as sea level rise and perturbations in temperature and precipitations patterns.
- Seeking to develop and build infrastructure with an increased role for the private sector, developing Public Private Partnerships(PPP) models that are constantly evolving.
- As very long-dated contractual relationships:
 - Success of PPPs is highly dependent on an accurate, sustainable and efficient distribution of risks and benefits between the public and private counterparts of the transaction.
 - Risk distribution can be perturbed significantly by climate change.

U.S.A. alone could see its economy lose roughly as much as 10% by century's end if significant steps are not taken to address climate change today.



Climate Change Risks May Arise in Each Phase of a PPP Project

Opportunities for an improved design for resilient and/or more productive infrastructure arise during the whole life of the PPP project:

- Project identification
- Business Case
- Transaction Structuring, and
- Management of the Contract.

Risks and opportunities alike need to be considered and followed-through in the different phases of the transaction to ensure, for example that:

- Critical aspects identified in the project preparation phase are then included in the preparation of the tender documents, and
- Inform the performance indicators in the contract management phase.



Resilient Infrastructure is a Good Long-term Investment

- Building resiliency into new infrastructure projects costs as little as 3% more (The World Bank, *Lifelines: The Resilient Infrastructure Opportunity*).
- The cost of relief and rebuilding after a major hurricane or other significant natural disaster typically dwarfs the additional expense.

Investors are demonstrating appetite for the stable returns and the impact these assets represent.



Government Action Should Lay the Groundwork

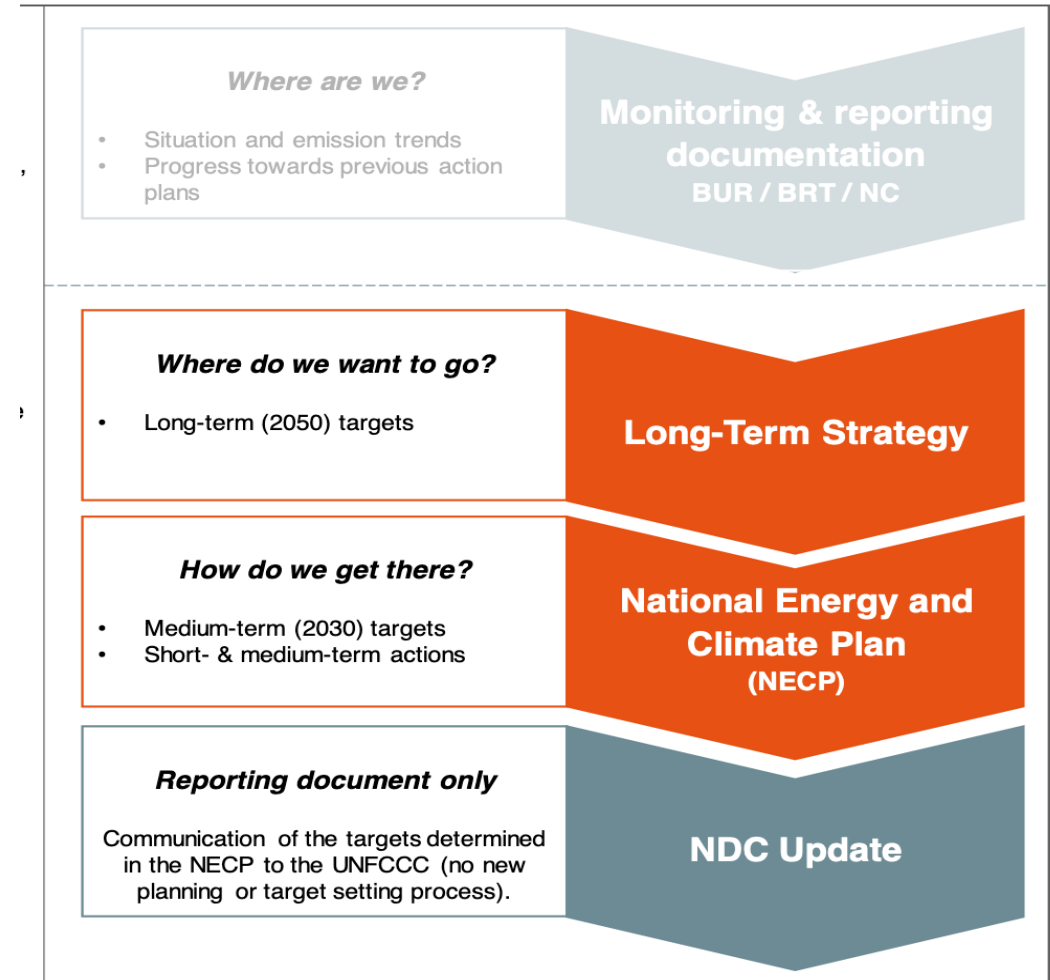
- Attempting to incorporate elements of resilience amid hasty rapid response efforts is challenging and inefficient.
- The important exercise of assessing risks, reinforcing critical infrastructure and preparing for the inevitable is best approached when seas are calm, skies are clear, and funding is readily available.

This is where national policies and climate action planning can help.



Climate Action National Plans tied to International Agreements

- International agreements on climate change mitigation and adaptation require Nationally Determined Contributions (NDCs).
- National planning exercises can be harmonized for effective benchmarking and monitoring.
 - Investment risks are lowered.



Some Guiding Principles on National Planning

- In some countries, medium-term climate-related strategies need not be developed in separate processes
 - Data collection, sector stakeholder engagement, mitigation analysis, and strategy formulation should be consolidated.
- NDC updates can be international reporting documents based on the latest national Climate Action Plans or Strategies.
- Countries should define clear roles and mandates for cross-ministerial coordinating bodies, working groups, and data collection teams.
- Make use of Progress Reports when writing National Communications (NC) to the UNFCCC and vice versa.



Government Policy Changes can Improve Climate Resiliency

- Governments should develop disaster risk management and climate resiliency policies alongside PPP policies
 - Need overlap between these policy areas.
 - Should not be developed in isolation.
- Engineering codes and standards as well as operational codes should be re-evaluated
 - PPP projects often involve large-scale long-term investments in assets that can be made more climate resilient.



Opportunity to Build an Enabling Environment

- Identify sources of finance and technical assistance
- Refine policy and business environment to:
 - Provide incentives for investment
 - Develop PPPs across a range of infrastructure projects.
- Implement regulatory changes including those related to (i) reduction of retail tariffs, (ii) increased reliability of supply by diversifying, and (iii) enhance service delivery.

Coordinate national plans and actions to attract investments.



Why Consider Climate Risks in PPPs?

- Consider life-cycle costs – long term costs of infrastructure assets
 - Private investors have to design projects that are more able to withstand climate events.
- Offer innovative solutions
 - Coordination among several stakeholders – e.g., government, developers, financial investors, and operators.
- Include lenders' due diligence



Current Issues and Emerging Trends



How much are we talking about?

- Infrastructure investment requirements exceed \$90 trillion over the next 15 years
- Global South accounts for 2/3rd of this and needs infrastructure investments of more than \$4 trillion per year
- Much of this is of course going to come via PPPs: low/zero-carbon transport, renewable energy, waste management including waste-to-energy, and more



Plus...

- We need investment to make existing infrastructure resilient to climate-induced impacts that are coming...
- ...or more likely already here, e.g., Hurricane Ida's impact on NOLA, winter storm on Texas grid



LANDSCAPE OF CLIMATE FINANCE IN 2017/2018

Global climate finance flows along their life cycle in 2017 and 2018. Values are average of two years' data, in USD billions.

574 BN USD
ANNUAL
AVERAGE



SOURCES AND INTERMEDIARIES

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

INSTRUMENTS

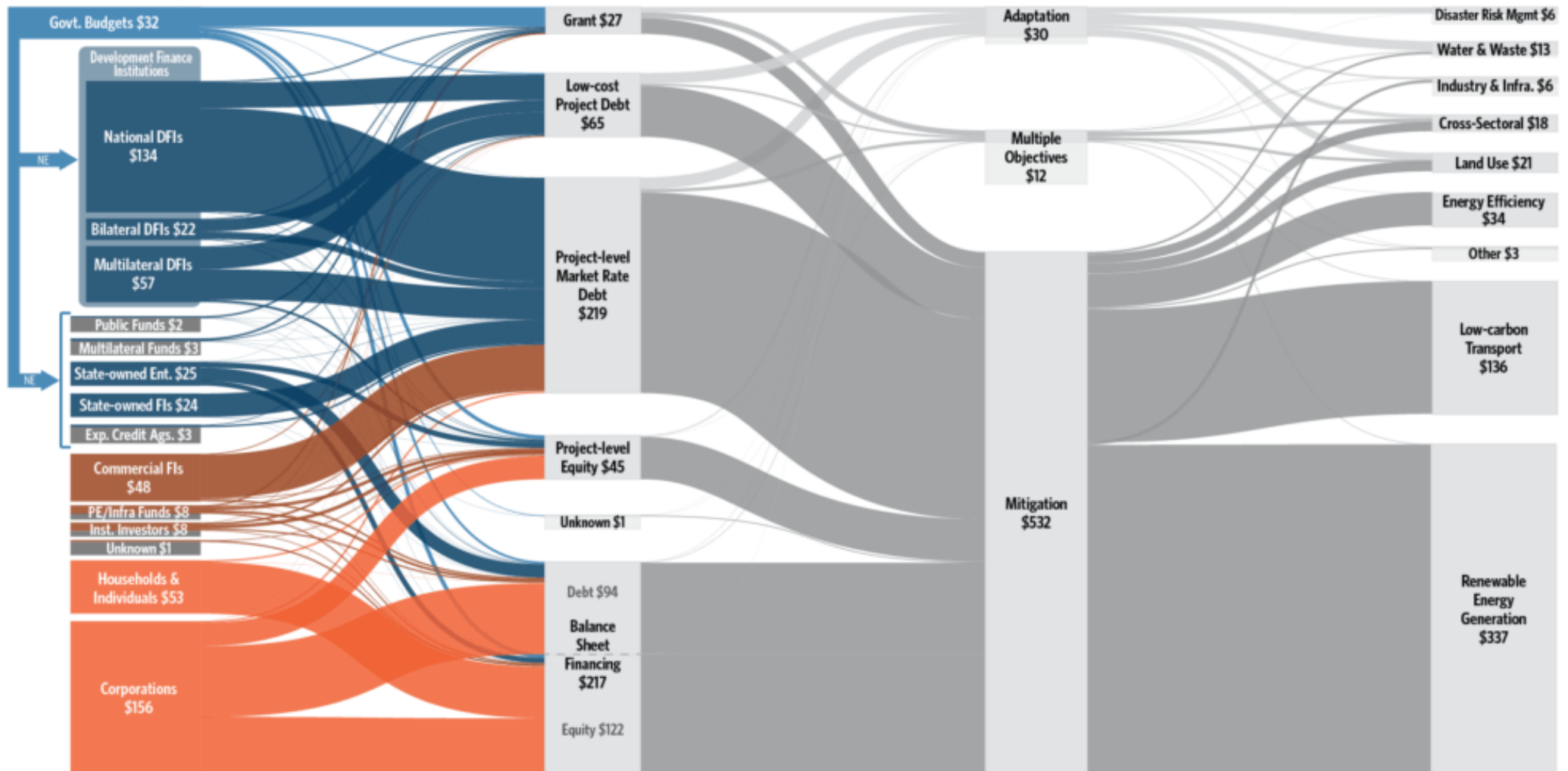
What mix of financial instruments are used?

USES

What types of activities are financed?

SECTORS

What is the finance used for?



KEY

PUBLIC MONEY

PRIVATE MONEY

PUBLIC FINANCIAL INTERMEDIARIES

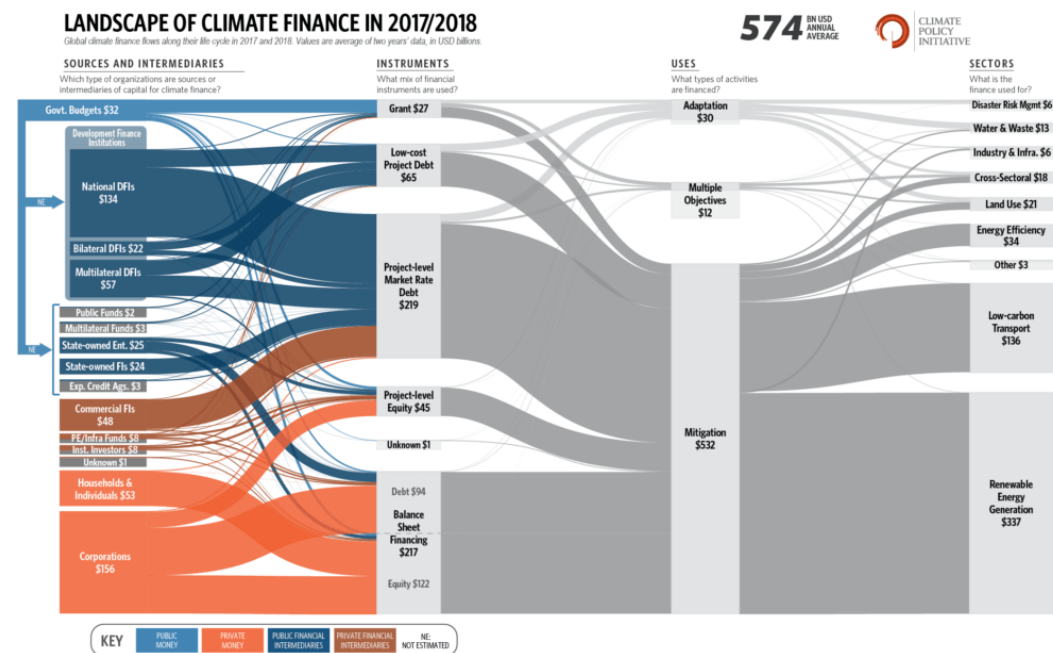
PRIVATE FINANCIAL INTERMEDIARIES

NE: NOT ESTIMATED



Global climate-related financial flows...

- **Private finance** - while significant and steadily increasing - is still to be fully unlocked...
 - Global savings
 - Commercial banks
- Financial flows supporting adaptation – effectively building resilience – are relatively miniscule at only ~5% of total flows!



What will it take?

Policy and Capacity

- Tools & metrics linked to relevant geo-specific data
- Improved integration of resilience in infra through better policies
- Technical support

Mobilizing Finance

- Labels / standards / lending requirements
- Risk-mitigated investment structures that attract private capital
- Leveraging insurance products



| Of course, while addressing – now urgently –
all the other issues not related to climate...

- Favorable macroeconomic environment with political stability
- Credit quality of offtakers
- Local currency risks
- Domestic capital markets



| 3 different, but relevant initiatives worth a mention...

- FAST-Infra: Finance to Accelerate the Sustainable Transition – Infrastructure
- CCRI: Coalition for Climate Resilient Investment
- EHRA: Extreme Heat Resilience Alliance



FAST-Infra: Finance to Accelerate the Sustainable Transition – Infrastructure

Banks



Institutional Investors



DFIs and Dev. Banks



Governments



NGOs and Others



- Industry-led, public-private initiative to help create a deep and liquid sustainable infrastructure asset class
- Introduce a sustainable infrastructure labelling system based on E&S + resilience – standardized for priority lending by DFIs and institutional investors
- Undertake targeted market interventions and financings



CCRI: Coalition for Climate Resilient Investment



- Address current mispricing of physical climate risks in investment decision-making
- Identify return on investment in integrating resilience in infrastructure projects
- Mobilize global private financial industry, in partnership with key public institutions, to develop and test practical solutions for integrating physical climate risks in investment decision-making



EHRA: Extreme Heat Resilience Alliance

Organizations:

- Adrienne Arsht-Rockefeller Foundation Resilience Center at the Atlantic Council
- American Forests
- Basel Agency for Sustainable Energy
- Bechtel
- Care Earth Trust
- CCRIF SPC
- The Centre for Disaster Protection (Quality Assurance Partner)
- Cities Climate Finance Leadership Alliance
- Climate Policy Initiative
- Climate Resolve
- ETH Zurich, Weather and Climate Risks Group Global Infrastructure Basel
- FSD Africa
- International Federation of the Red Cross, Americas Zone
- Insurance Development Forum
- National Center for Atmospheric Research, Regional Climate Applications; Dr. Caspar Ammann, Project Scientist III, Boulder, CO
- Pathfinder International
- The Red Cross Red Crescent Climate Centre
- Resilient Cities Network
- The Risk-informed Early Action Partnership (REAP)
- The Rockefeller Foundation

- Swiss Re
- University of Pennsylvania, Cities Climate-Resilient Infrastructure

Cities/Countries:

- City of Athens, Greece
- City of Chennai, India
- City of Melbourne, Australia
- City of Mexico City, Mexico
- City of Miami, Florida
- City of Miami Beach, Florida
- City of Tel Aviv, Israel
- Los Angeles County, California
- Miami-Dade County, Florida

Individuals

- Annette Detken, Director, Climate Risk Solutions Management, Limited
- Dr. Aaron Bernstein, Director, Center for Climate, Health, and the Global Environment at Harvard T.H. Chan School of Public Health (Harvard Chan C-CHANGE)
- Jeff Goodell, New York Times Best Selling Author & Contributing Editor, Rolling Stone
- The Honorable Ricardo Lara, California Insurance Commissioner (elected), California Department of Insurance

- Infrastructure – incl roads, rail, and air travel – is impacted by extreme heat
- Economic costs of disruption likely to be staggering
- Develop relevant risk transfer and financing solutions at city level



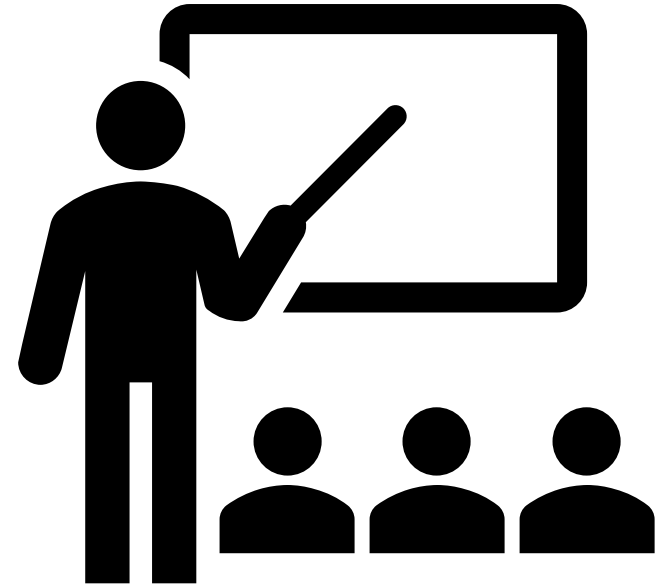
Summary of Key Points

- Due to the increased risks associated with climate change accounting for these risks have become increasingly important
- Climate risk issues should be integrated into the PPP process
- While there is momentum in this area from the private sector, the onus is on the public sector to require this integration to see results



Previous Webinars

- **Project Finance**
- **Screening Tools**
- **Pre-Feasibility Studies**
- **Pre-Qualification and Evaluation**
- **Sector Specific: Pre-Feasibility Studies**
- **Business Case Development**
- **Unsolicited Proposals**
- **Financial Modeling**
- **Life Cycle Costs Analysis**
- **Project Agreements**
- **Financing Documents**
- **Commercial Contracts**



Access Previous Recordings

Go to:

www.cldp.doc.gov/PPP

Register

Watch



PPP: Project Finance Registration

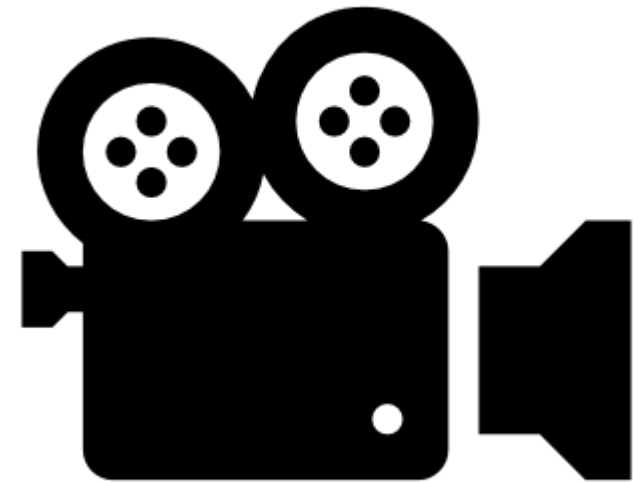
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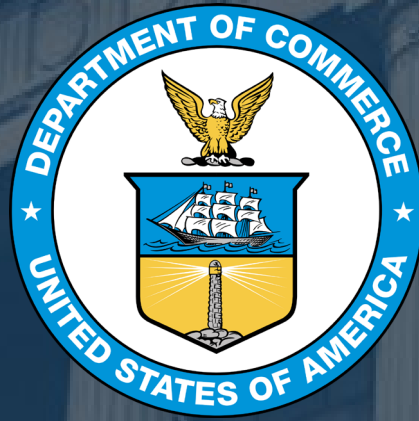
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Upcoming Webinars

- **Mitigation of Climate Damage**
- **Climate Smart Policies**
- **Debt Financing Risk**
- **Contract Management**
- **Social PPPs**
- **Airport PPPs**





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Annex: Key Terms

Adaptation: In human systems, the process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities. In natural systems, the process of adjustment to actual climate and its effects; human intervention may facilitate adjustment to expected climate and its effects.

Capacity: The combination of all the strengths, attributes and resources available within an organization, community or society to manage and reduce disaster risks and strengthen resilience. More information and further definitions on disaster risk can be found here: <https://www.unisdr.org/we/inform/terminology>.

Climate: Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation and wind. Climate in a wider sense is the state, including a statistical description, of the climate system.

Climate Change: Climate change refers to a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external pressures such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.

Note that the Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.’ The UNFCCC thus makes a distinction between climate change attributable to human activities altering the atmospheric composition and climate variability attributable to natural causes.



Key Terms (Cont.)

Exposure: situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas.

Hazard: A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. Natural hazards are predominantly associated with natural processes and phenomena.

Mitigation: A human intervention to reduce emissions or enhance the sinks of greenhouse gases.

Mitigation Measures: In climate policy, mitigation measures are technologies, processes or practices that contribute to mitigation, for example, renewable energy (RE) technologies, waste minimization processes and public transport commuting practices.

Climate/Disaster Risk: The potential for adverse consequences where something of value is at stake and where the occurrence and degree of an outcome is uncertain. In the context of the assessment of climate impacts, the term risk is often used to refer to the potential for adverse consequences of a climate-related hazard, or of adaptation or mitigation responses to such a hazard, on lives, livelihoods, health and well-being, ecosystems and species, economic, social and cultural assets, services (including ecosystem services), and infrastructure. Risk results from the interaction of vulnerability (of the affected system), its exposure over time (to the hazard), as well as the (climate-related) hazard and the likelihood of its occurrence.

Resilience: The capacity of social, economic and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation. This definition builds from the definition used by Arctic Council (2013).

Vulnerability: The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

