Catalyzing Private Investment in Climate Smart Cities Report

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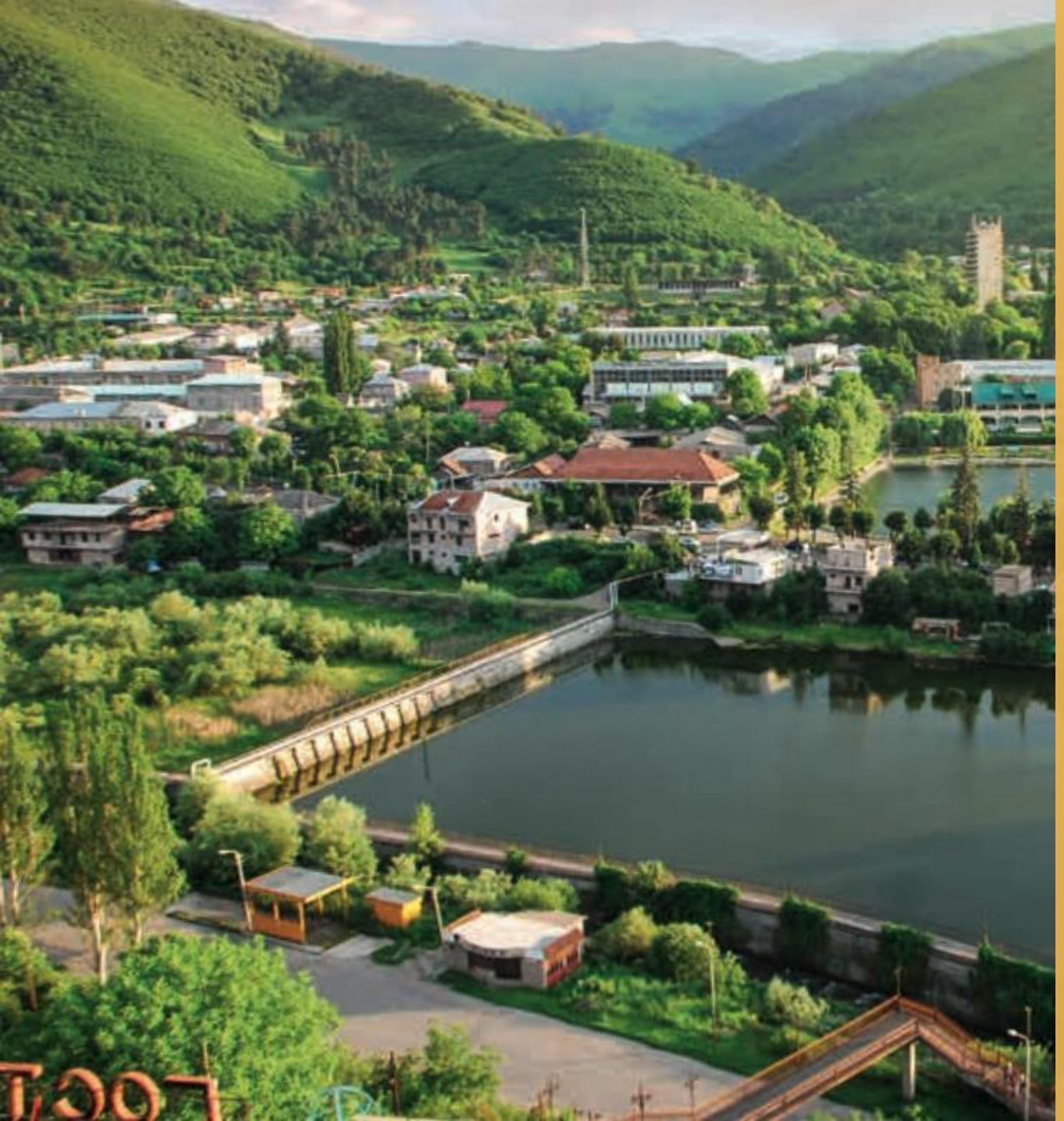
Outline

Context – Climate smart urban investment

Framework - Barriers to expanding climate-smart urban investment

Case studies – Innovative financing to catalyze private investment

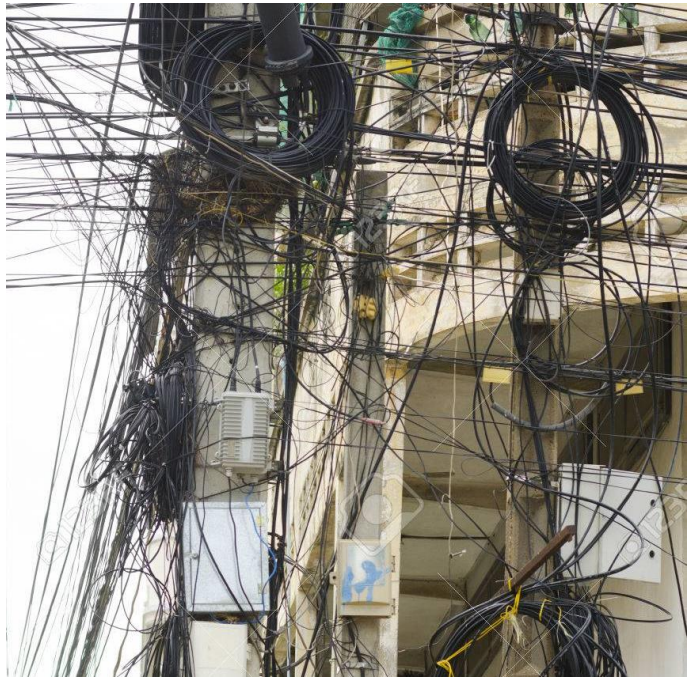


CLIMATE SMART URBAN INVESTMENT

CONTEXT

Climate Smart Urban Investment

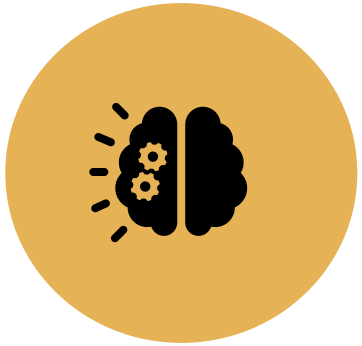
With rapid urbanization, cities are in crisis mode in key sectors that are also the main sources of GHGs



Climate Smart Urban Investment

Four strategies to catalyze investment

UNDERSTANDING WHAT TO FINANCE AND HOW-TO PRIORITIZE (DATA, UBRAN PLANNING & MAKRET INTELLEGENCE)



OPTIMIZING EXISTING PUBLIC RESOURCES (BETTER, SMARTER PUBLIC SPENDING)

MAKING INTERNATIONAL PUBLIC CLIMATE FINANCE MORE TRANSFORMATIONAL

FINDING NEW SOURCES OF FINANCE (CATALYZING PRIVATE FINANCE)

Climate Smart Urban Investment

Five roles cities can tap to leverage finance: Cities act as…

CONSUMERS of goods and services

1

REGULATORS that offers incentives

2

INVESTORS and PROVIDERS of goods and services

3

FUNDRAISERS OF CAPITAL

4

A "SYSTEM of SYSTEMS"

5

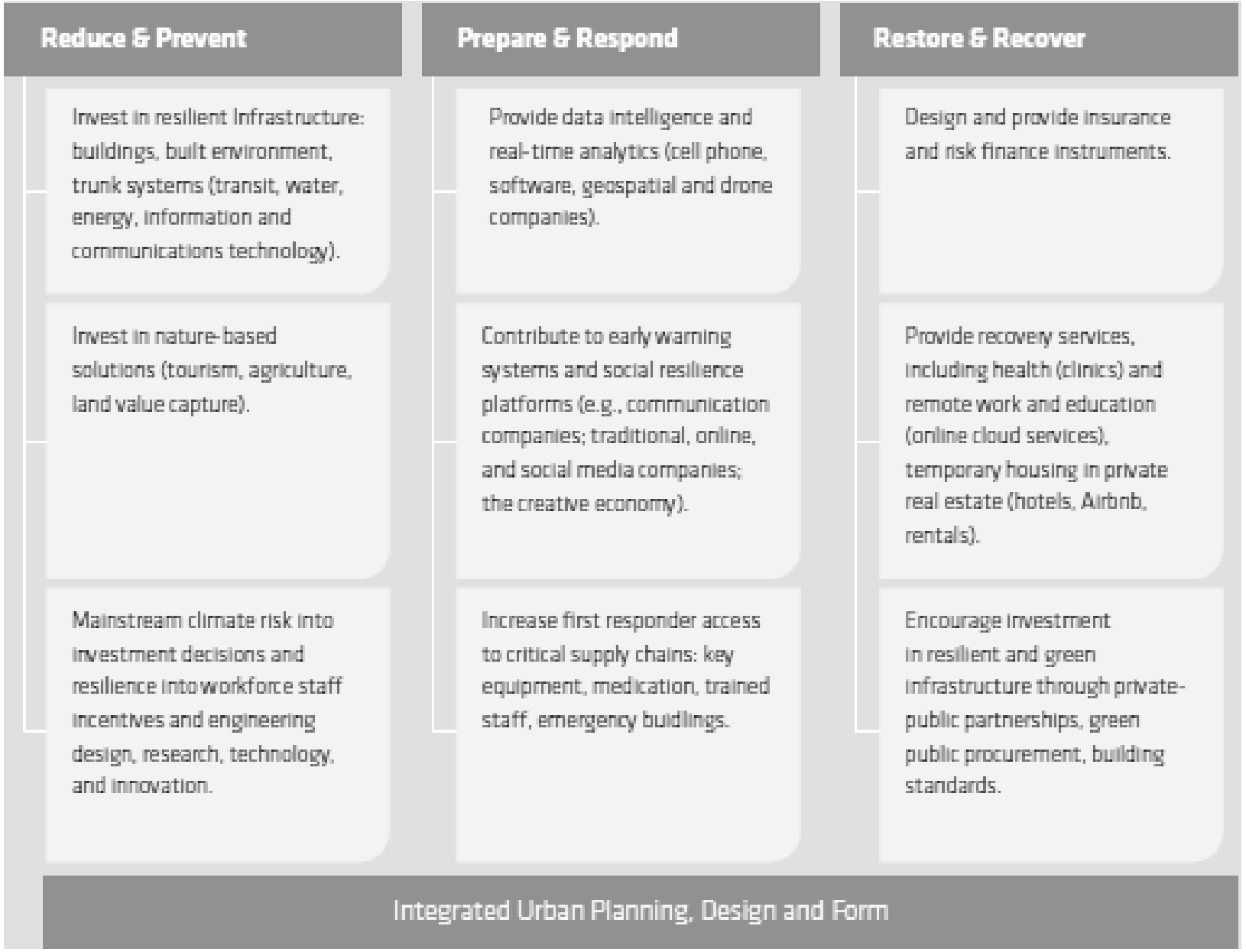
Climate Smart Urban Investment

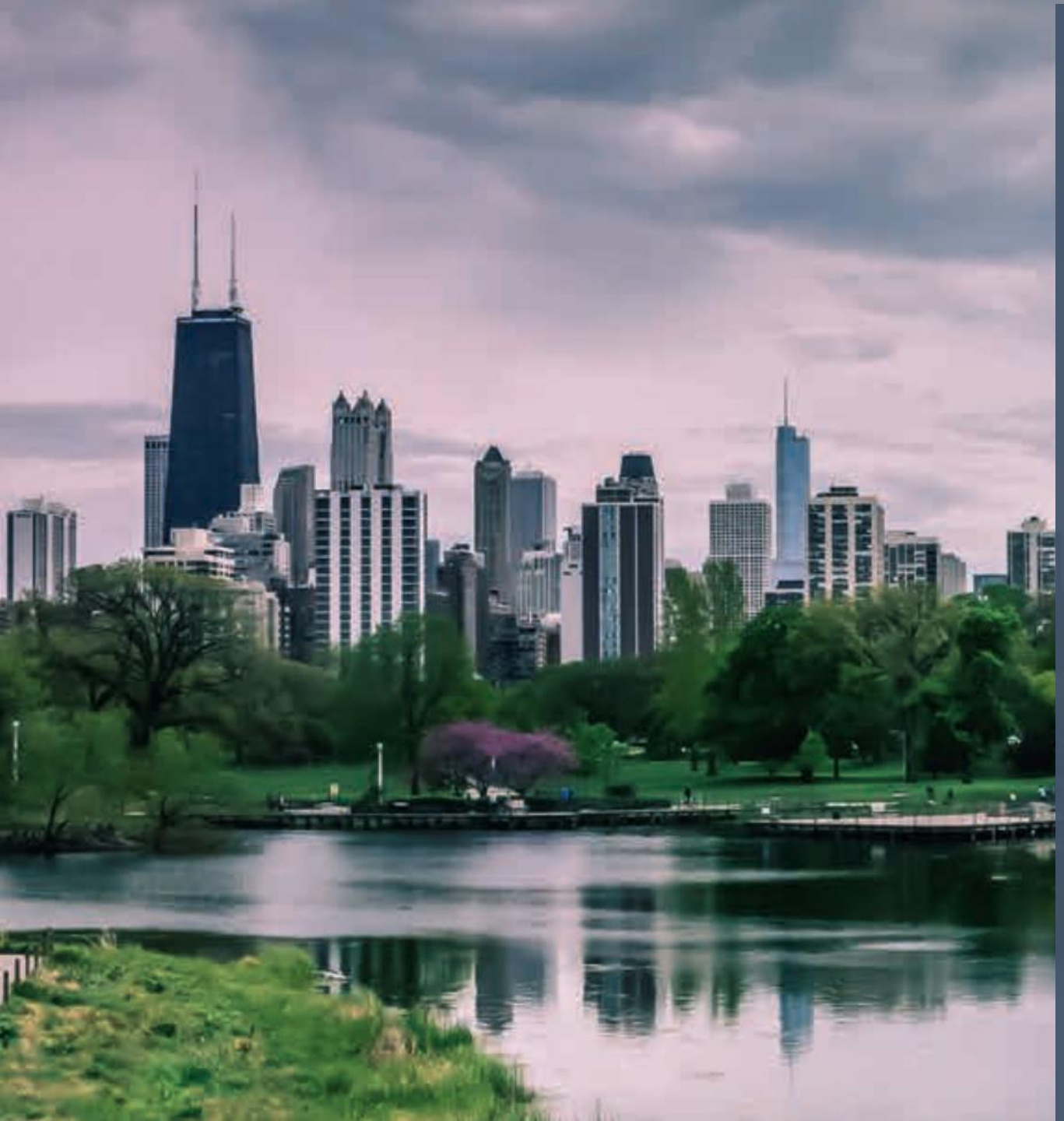
Turning main sources of GHGs into opportunities for climate smart cities needs integrated, systems-based strategies, including with national government agencies

SOURCES	Transport	Buildings	Energy	Waste	Industry
SOLUTIONS	An Integrated Transport Plan for compact cities and multimodal, networked, electrified, active and green mobility systems. Policy measures could include: emission standards, fuel efficiency standards, car quotas, safe active mobility and micro mobility.	An Integrated Buildings Plan that promotes compact, green and efficient buildings and environment through urban form; centralized district approaches; building codes; zoning; appliance standards etc. Measures include green certifications, green mortgages, cap and trade for buildings.	An Integrated Energy Plan fed by micro grids, urban grids and centralized utilities, supported by storage and renewables. Measures include rooftop solar on city-owned, residential and commercial assets. Rooftop solar for slum upgrades and social housing. Solar street lighting. CCA	Plan to move towards circular economy and zero waste concepts: reduce, reuse, recycle, recover and only then dispose for solid waste and wastewater. Measures include reduce consumer packaging, bans on single use plastics, pay as you throw, composting, storm water diversion actions.	Reduce final energy demand in Industry by one third through renewables, energy efficiency and green infrastructure planning. Increase recycling of materials and the development of a circular economy in industry. Measures include: electrification of production processes where possible, substituting towards renewables, green technologies.
	MEDIUM	HIGH	LOW	HIGH	LOW
MUNICIPAL CONTROL	Regional and national roads, highways, bridges, ports, trains under purview of National Department of Transport. Cities have purview over urban planning and form; in city road network, BRT, sidewalks, bike, pedestrian infrastructure, in city transit (metro, tram, light rail) and Taxi, ride share policy and parking fees.	Heating, cooling and cooking equipment standards and national level building codes under national Department of Energy. Cities have purview over urban form, planning, land zoning, building codes and district cooling and heating. Municipal tools include permitting, inspection, financial incentives.	Utilities and grid networks under the purview of National Department of Energy. Cities can make independent decisions for rooftop solar on city-owned public buildings, social housing and slum upgrades; provide incentives for solar roof top and upgrade street lighting	Cities have purview over solid waste management, including through urban planning, land zoning, waste collection, infrastructure investment for landfill, waste to energy, incineration as well as policies such as banning single use materials. Cities have purview over storm water diversion actions.	Industries located within cities, must follow national level environmental policies and safety standards. Trade sensitive industrial sectors such as iron, petrochemical and fossil fuel make policy action by individual cities and challenging due to competitiveness concerns. Cities have some influence tools through land zoning and taxation.

Climate Smart Urban Investment

Three elements of opportunities for leveraging private engagement in urban resilience and adaptation





BARRIERS TO EXPANDING CLIMATE-SMART URBAN INVESTMENT

FRAMEWORK

Barriers to Expanding Climate-Smart Urban Investment

Cities face unique challenges to access and attract private capital

3 things to be considered when framing those challenges

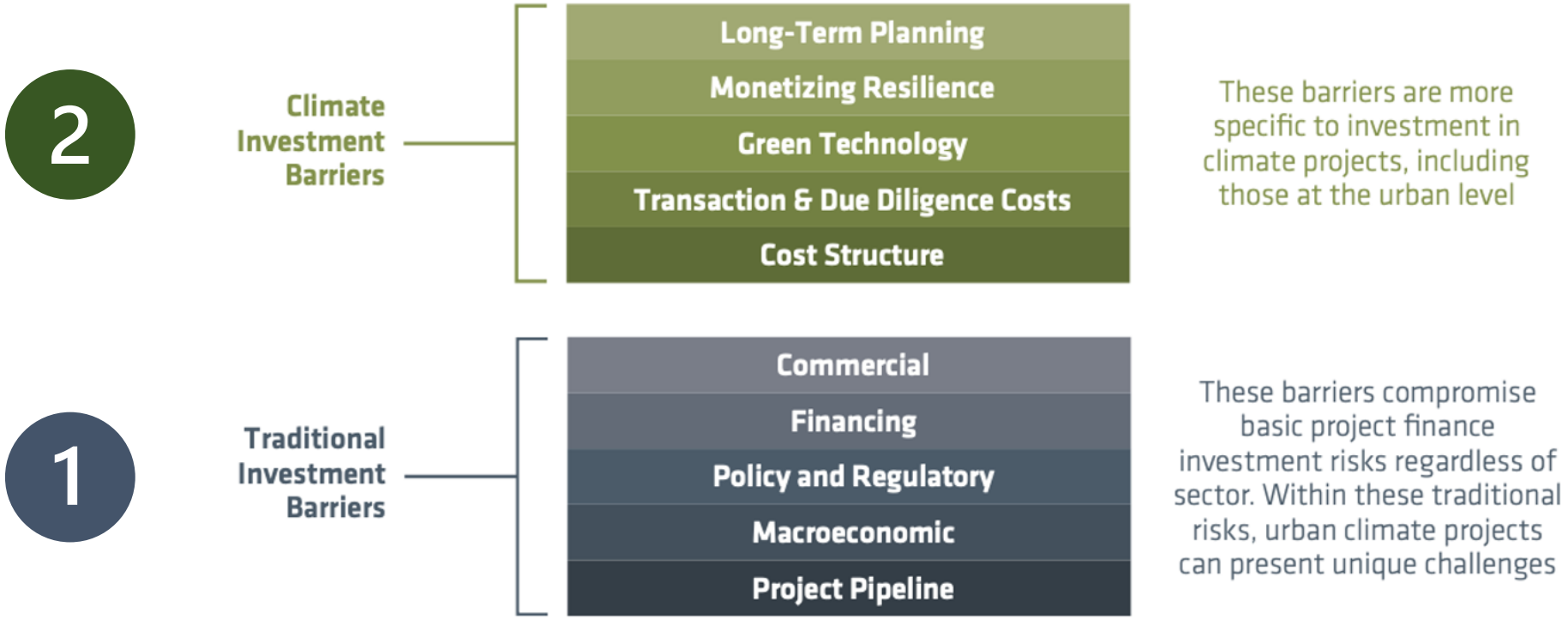
Enabling environment **conditions determined by national policies and regulations**

Cities' ability to act as **an investor in the urban infrastructure sector and their limitation in raising capital**

Private investors' limitations in financing sustainable infrastructure projects at the municipal level

Barriers to Expanding Climate-Smart Urban Investment

Two interconnected sets of barriers must be overcome to expand private urban investment in developing countries



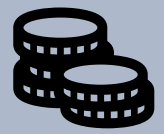
Barriers to Expanding Climate-Smart Urban Investment

1 Traditional Barriers

Traditional Investment Barriers	Cities as Government Authority or Investor	Private Investor
Project Pipeline 	**As Government Authority** – Limited capacity to develop bankable climate-friendly projects and prepare projects of sufficient size and quality for commercial financing – Limited capacity to manage diverse stakeholders – Limited early-stage project preparation financing	– Unaccustomed to working with municipal governments; limited understanding of city projects – Limited standardization of term sheets for portfolio aggregation to counter project ticket size
Macroeconomic 	**As Government Authority** – Lack of influence over monetary policy	– Foreign exchange risk – Inflation – Interest rates
Policy and Regulatory 	**As Government Authority** – Lack of vertical alignment between national and subnational governments – Limited control over policies and regulations to encourage private investment, including well-designed concessions, well-regulated tariffs, and consistent technical standards for hardware, electricity quality, and grid expansion – Lack of strong, efficient, impartial domestic dispute resolution systems	– Repudiation or breach of contract – Currency convertibility, transferability, and funds expropriation risk – Restrictions related to international financial regulations (e.g., capital requirements, treatment of guarantees)

Barriers to Expanding Climate-Smart Urban Investment

1 Traditional Barriers

Traditional Investment Barriers	Cities as Government Authority or Investor	Private Investor
Financing 	**As Government Authority** – Limited direct access to climate funds and development finance that could reduce risk of private investment **As Investor** – Lack of creditworthiness of cities, who are often constrained by the creditworthiness of their host country, which can be misaligned with the city's creditworthiness – Limited ability to raise debt or taxes to finance projects – Limited access to affordable, concessional co-financing, especially in local currency	– Underdeveloped capital markets (notably corporate bond markets) – Limited access to risk-capital, first-loss financing, or junior tranche equity to reduce risk of commercial investment – Lack of standardized term sheets, limiting portfolio financing
Commercial 	**As Investor** – Consumer demand, including stability and growth prospects for infrastructure services and competitive environment – Local developer and contractor capabilities, particularly with regard to construction and operation – Overall size of market (stability and growth prospects) limiting size of project or investment and ability to replicate or expand	Same Barriers

Barriers to Expanding Climate-Smart Urban Investment

2 Climate Barriers

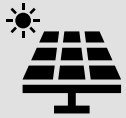
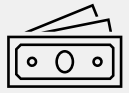
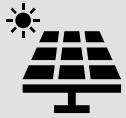
Climate Investment Barriers	Investor
Cost Structure 	Upfront capital expenditures requirements that are higher than fossil fuel alternatives but lower operating and overall costs
Higher Transaction and Due Diligence Costs 	Low-emission and climate resilient urban infrastructure can incur high transaction and due diligence costs which reduce returns and increase projects costs, deterring critical investment by cities themselves and outside investors
Green Technology Risk 	Underlying risk of newer technologies that creates insufficient information regarding data covering performance over the asset lifespan
Monetizing Resilience Investments 	The challenge of monetizing benefits and identifying clear revenue streams that would allow investors to recover their full costs over the lifetime of an asset
Long-Term Planning Barriers 	The effect of climate change on the spatial distribution and intensity of natural hazards makes planning challenging and all assessments uncertain

CROWDING-IN PRIVATE URBAN INVESTMENT

CASE STUDIES

Case Studies Summary

Innovative Financing Approaches

#	Case Study	Activity Name	Climate Benefit	Instrument	Key Barrier Addressed	Country	Stage
1	Bundling Urban Climate Investment Opportunities in a Dedicated Fund to Crowd- in Institutional Investors	The International Municipal Investment Fund 	Mitigation 	Technical Assistance, Equity, Senior Loans, Mezzanine Loans	Project Pipeline, Financing, Policy		In Development 
2	Directing Private Investment for Mitigation in Cities through Comprehensive Urban Planning and Design	City Climate Finance Gap Fund 	Mitigation/ Adaptation & Resilience 	Technical Assistance (Grants)	Project Pipeline, Long-Term Planning, Policy & Regulatory		In Development 
3	Scaling Urban Investment through Policy	Energy Efficiency investments in Yerevan City, Armenia 	Mitigation 	Blended Finance	Policy and Regulatory, Financing	Armenia	Under Implementation 

Case Studies Summary

Innovative Financing Approaches

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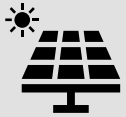
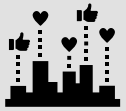
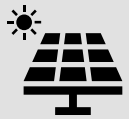
4	Combating Climate Change and Air Pollution through Municipal Bonds	Breathe Better Bond 	Mitigation 	Municipal Bonds	Financing		Piloting 
5	Leveraging Private Investment through Blended Finance Mechanisms	Shanghai Green Infrastructure Fund 	Mitigation/ Adaptation & Resilience 	Blended Finance, Green Bonds and Asset Pools, Credit Enhancement	Financing, Policy and Regulatory	China	Under Implementation 
6	Unlocking Viable Investment Pipelines for Resilience	City Resilience Program (CRP) 	Adaptation & Resilience 	Technical Assistance (Grants)	Project Pipeline, Financing, Policy and Regulatory		Under Implementation 

Case Studies Summary

Innovative Financing Approaches

#	Case Study	Activity Name	Climate Benefit	Instrument	Key Barrier Addressed	Country	Stage
7	Reducing Transaction Costs through Green Bulk Procurement	Electric-Buses in Santiago Chile 	Mitigation 	Leasing, PPP, Green Bulk Procurement	Financing, Cost Structure, Long-term Planning, Policy	Chile	Under Implementation 
8	Trailblazing Investment in Urban Vertical Farming Technology.	Aerofarms 	Mitigation/ Adaptation & Resilience 	Blended Finance	Green Technology, Financing	USA	Under Implementation 
9	Developing Natural Capital Insurance Products for Urban Coastal Resilience	Reef2Resilience 	Adaptation & Resilience 	Parametric insurance product	Monetizing Resilience	Mexico	Piloting 
10	Building Software Planning Tools for Cities	EPIC Investment Tool 	Mitigation 	Planning Software	Long-Term Planning, Policy and Regulatory		Piloting