



Financing tools for urban adaptation to climate change impacts

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Who are we?

- **I4CE** : Institute for Climate Economics
- **Our vision** : Harnessing economics for the climate
- **Missions:**
 - an initiative of **Caisse des Dépôts and Agence Française de Développement**. The *think tank* provides **independent expertise and analysis on** economic issues linked to climate & energy policies in France and throughout the world.
 - aims at helping public and private decision-makers to improve the way in which they **understand, anticipate, and encourage the use of economic and financial resources** to promote the transition to a **low-carbon resilient economy**.
- **3 programs:**
 - **Industry, Energy and Climate:** understanding policies for the low-carbon transition in the industry and energy sectors
 - **Finance, Investment and Climate:** analyzing the mainstreaming of climate change into financial decision-making by public and private entities.
 - **Territories and Climate:** identifying and analyzing courses of action in the fight against climate change in the agriculture and forestry sectors as well as urban areas.

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4ICE | Financing urban adaptation: our publications

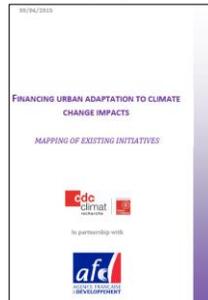


Based on literature reviews and dozen case studies in several contexts

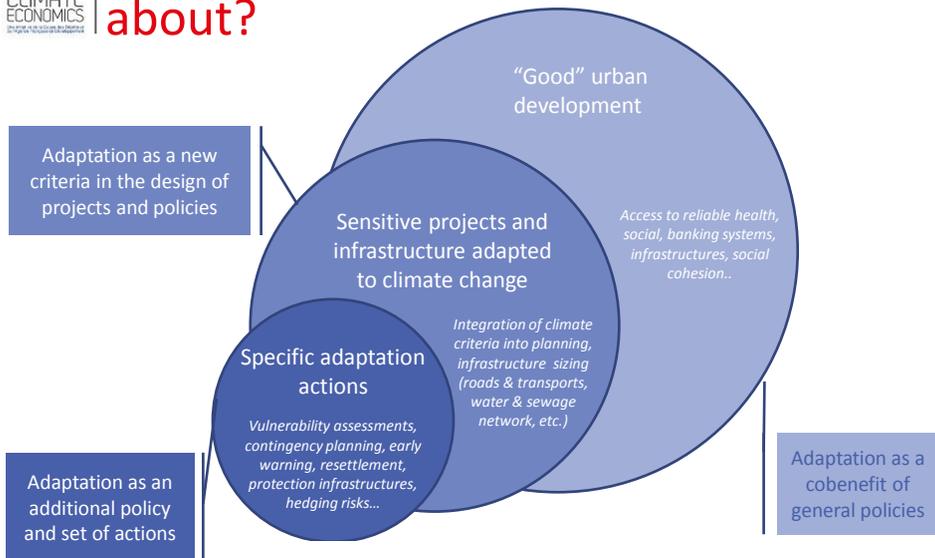
In developed countries



In developing countries



4ICE | Urban adaptation: what are we talking about?





Instruments to:

- **Raise additional money, public and private**
 - **Be able to bear an extra cost**
 - Efficiency of public spending + risk sharing
 - For initial investments & revenues over project lifetime ;
 - Adapting classical or more inovative tools (taxs, loans, PPP, bonds, third-party investment, permits markets, CO2 revenues allocation, crowdfunding)
 - **Hedge risks (ex. catbonds & climate derivatives) and recover after damage**
 - **Value co-benefits**
- Taking into account the diversity of contexts, stakeholders, objectives and barriers (financial, legal, organizational, cognitive, informational)
- Different tools for different steps

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Incentivize stakeholders to take adaptation into account

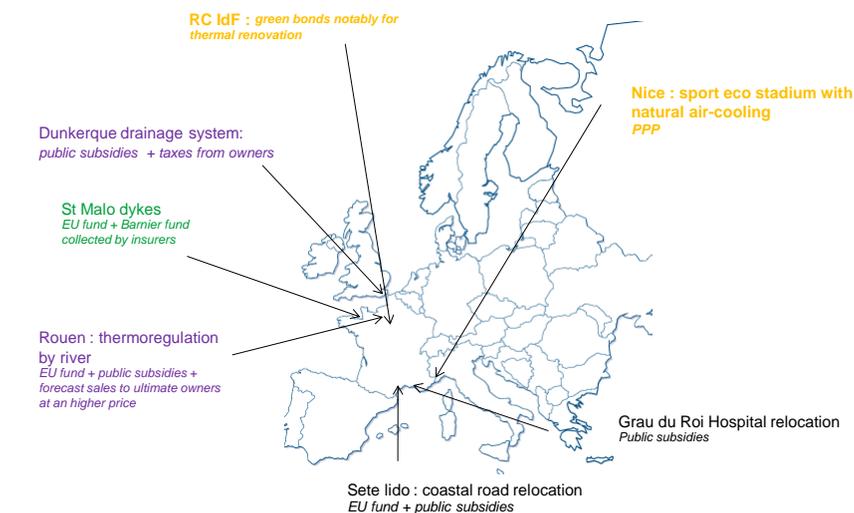
- **Cities as systems: private adaptation might be determinant for the global city resilience**
- **Handling this topic with the city services providers (ex. *transport or water utility companies*)**
- **Cities can provide information, coordination, subsidies**
- **Instruments to incentivize or enforce private adaptation investments:** public procurement, tax criteria, norms and standards.
- **Provide the right incentive to extend insurance to hedge climate risks**



TD Bank Green Roof Photo Credit: Jenny Hill

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Examples in France



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In developing countries: access to international finance

- A mapping of 27 initiatives available for the financing of urban adaptation to climate change offering additional options to more conventional sources of funding for climate change and sustainable development (national budget, Official Development Aid, etc.)
- Key elements:
 - Few initiatives dedicated to adaptation; more on climate change and development issue, which can consider adaptation issue
 - Strong prevalence of initiatives supporting soft adaptation measures (ex. strategy planning, capacity building, technical assistance)
 - Providing grants, concessional loans
 - Significant role of local intermediaries (regional and local banks, national development funds, etc.)
 - Several key factors of success among which liaising with international development stakeholders (such as multilateral and bilateral donors) at the local level and the identification of various co-benefits and synergies between the economic, environmental and climate impacts.

www.i4ce.org/wp-core/?wpdmdl=9288



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Extract of the mapping

NAME OF INSTITUTION ¹	GENERAL OBJECTIVE	SPECIFIC TO URBAN PROJECTS?	MAIN PILOT ORGANISATIONS	MAIN TYPES OF BENEFICIARIES	TOTAL AMOUNT ALLOCATED	AMOUNT ALLOCATED TO ADAPTATION	TARGET GEOGRAPHIES	SCOPE, DEFINITION OR FOCUS OF ADAPTATION	SOFT INFRASTRUCTURE PLANNING	SOFT INFRASTRUCTURE DEVELOPMENT	HARD INFRASTRUCTURE
LoCAL	ADAPTATION	Yes	UNCDF	Local authorities	USD 1.500.000	Objectives of the initiative	World	No specific definition. Improve citizens' life conditions through protection of the environment.	X	X	
Resilient Cities Acceleration Initiative	ADAPTATION	Yes	UN	Local authorities	No information available	No information available	World	Reducing vulnerability of cities and their inhabitants to climate and disaster risks and ensuring sustainable, equitable urban development.	X		
Urban Climate Change Resilience Trust Fund*	ADAPTATION	Yes	ADB, DFID and Rockefeller foundation	Local authorities	USD 140 million available	No information available	Asia	Increase in extreme floods, sea level rises and other climate change-linked events.	X	X	X
Adaptation Fund*	ADAPTATION	No	World Bank for UNFCCC	Public institutions through Implementing Agencies	USD 277 million (as of 31/10/2014)	USD 277 million (as of 31/10/2014)	World	Support concrete adaptation activities that reduce the adverse effects of climate change facing communities, countries, and sectors. – Better understand and reduce vulnerabilities to natural hazards and adapt to climate.	X	X	X
Global Facility for Disaster Reduction and Recovery*	ADAPTATION	No	World Bank	Local, national, regional, and international partners	Over USD540 million in pledges and contributions since its inception in 2006	Over USD540 million in pledges and contributions since its inception in 2006	World	– 5 pillars: Risk Identification, Risk Reduction, Preparedness, Financial Protection, Resilient Recovery	X		
Least Developed Countries Fund*	ADAPTATION	No	GEF	National government through implementing agency	USD 903,1 million as of 09/2014	No information available	World	Reduce the vulnerability of people, livelihoods, physical assets and natural systems to the adverse effects of climate change	X	X	
Pilot Program for Climate Resilience	ADAPTATION	No	World Bank	Through donors	USD 1.2 billion	USD 1.2 billion	World	Pilot and demonstrate ways in which climate risk and resilience may be integrated into core development planning and implementation by providing incentives for scaled-up action and initiating transformational change.	X	X	X
Adapt-Asia Pacific Project	ADAPTATION	No	USAID	National and local governments	No information available	No information available	Asia and Pacific	Climate change and climate variability	X	X	
ClimDev-Africa Special Fund	ADAPTATION	No	ADB, AUC and UNECA	Regional Economic Communities National governments	USD 196 million	No information available	Africa	Contribute to sustainable development and, in particular, poverty reduction by preparing and implementing climate-resilient development programs	X		

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Take home messages:

- **Adaptation: more than just one policy → more than just a specific financial tool**
 - Any single source of funding will be inadequate to deliver the large financing needs
 - Essential for regional jurisdictions and municipalities to diversify their sources of finance and tap the full spectrum of resources available to raise funds for climate action
- **Many tools potentially usable but few examples of utilization because of their complexity and the difficulty to distinguish the adaptation aspect from more general measures**
- **In developed countries, involvement of the private sector is often a key issue.**
- **In developing countries:**
 - Strong prevalence of initiatives supporting soft adaptation measures
 - Local intermediaries play a significant role in financing urban adaptation
 - Several factors of success for the cities' access to these sources of funding: liaising with international development stakeholders at the local level, identification of various co-benefits and synergies between the economic, environmental and climate impacts
- **Common challenge : reinforcing the business case of adaptation/adapted projects**
 - Shared indicators as tools to value co-benefit, attract and secure funding
 - Role for economical analysis
 - Valuing flexibility and robustness
 - Strengthening political support and social acceptability

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Thank you!



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Back-up slides



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I4CE | Diverse access to funding for cities in developing countries



- **Major barriers for successful municipal funding for climate action**
 - Lack of creditworthiness of subnational governments,
 - Access to capital markets and international mechanisms,
 - Financial and technical skills and human resources
 - *Maturity of decentralization processes*
- **First step to get finance flowing for climate-related: to make local governments more attractive for investors**
 - USD1 invested in the creditworthiness is likely to mobilize more than USD100 in private-sector (WB)
 - Municipal taxes and allocations from national governments can also help to improve the scale and stability of revenues
- **Strengthening fiscal decentralization through institutional and legal reforms could overcome this barrier**
- **Identifying and highlighting co-benefits of climate-related measures**

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I4CE | Orders of magnitudes



Global Adaptation costs

- Climate change adaptation costs : USD150 bi/yr by 2025-30 & USD250-500 bi/yr by 2050, according to a 2°C scenario (UNEP 2014)
- **80% of the adaptation costs** for 2010-2050 could be carried by urban areas (World Bank, 2010)

Global Adaptation financing

- Climate finance (CPI, 2013): USD331 bi/yr - 25 for adaptation
- 10% of climate funds targeted to urban areas 2010-2014 (ODI)
- Securing the funding for adaptation was perceived as a challenge by 85% of cities (Carmin et al. 2012)

Landmarks on infrastructures

- Global infrastructure investments needs: USD90 trillion for 2015-2030
- Ensuring new infrastructures are adapted to climate change represents between 5% and 15% of the total cost according to the World Bank

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