

# **Cities in Asia: the Challenge of Climate Change**

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# Overview

**Background and Environmental Issues in MegaCities**

**Current Institutional Context and the Challenges**

**Financing Infrastructure to Address Climate Change**

**New Methodologies and Mechanisms**

**Ways Forward**

# Asia's Urban Challenge

**Cities in Asia provide over 75% of the economic base of their nations — but they also have adverse environmental impacts and are home to a growing number of the poor.**

**Rich and poor alike are vulnerable to economic and environmental shocks.**

**Managing cities to cope with climate change requires:**

- **Effective links across public, private and community sectors; and**
- **New, flexible forms of finance.**

# Sector Trends and Conditions

## KEY ASIA URBANIZATION INDICATORS



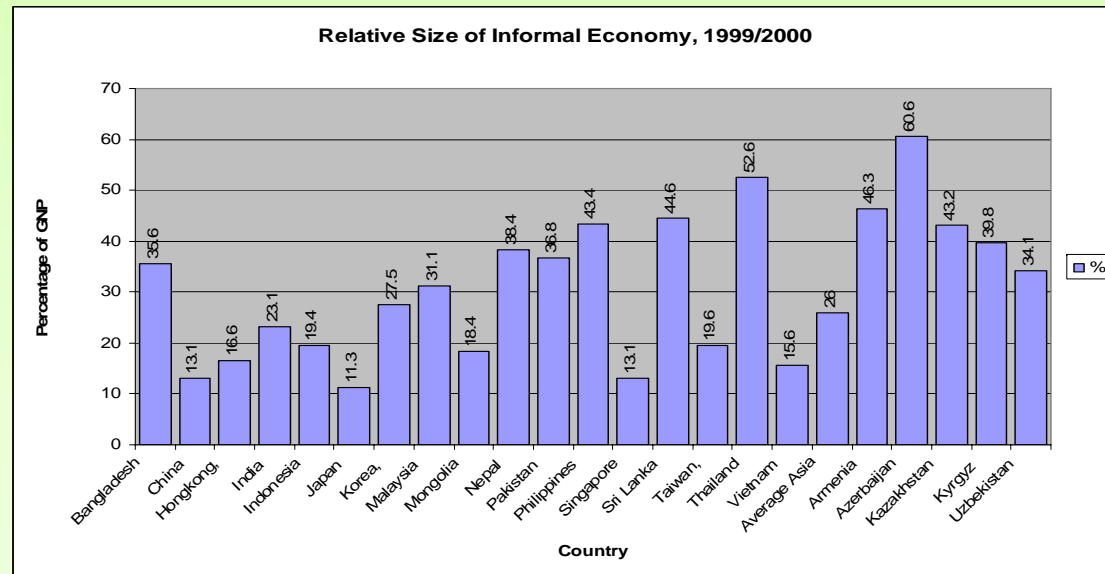
- ✉ Asia accounts for:
  - 60% of the world's population
  - 46% of its urban residents
  - 59% of world urban population increase 1980-1994
- ✉ Asia's level of urbanization – 3% annual growth
  - 27% in 1980 - 38% in 2000 - 50% in 2020
- ✉ Rural urban migration accounts for 40% of Asia's urbanization
- ✉ Number of megacities of 10 million or more population:
  - World: 17 in 2008 - 27 in 2015
  - Asia: 12 in 2008 - 18 in 2015

# Informal Economic Giants

City	Country	Population '000s 2005	Economic Product \$m 2004
Shanghai	China	12,665	89,980
Mumbai	India	18,336	83,528
Jakarta	Indonesia	13,194	24,592
Manila	Philippines	10,677	32,277
Bangkok	Thailand	6,604	63,088
Tokyo	Japan	35,327	740,000
	Sweden	8,855	255,400
	Denmark	5,300	174,400
	Cambodia	13,107	26,990
	Bangladesh	136,600	56,600

Megacities are nation-sized in population and economic product

But they contain a large informal economy



# Environmental Management Issues

## Mitigation

Asian cities will contribute over half the GHG increment over the next 20 years

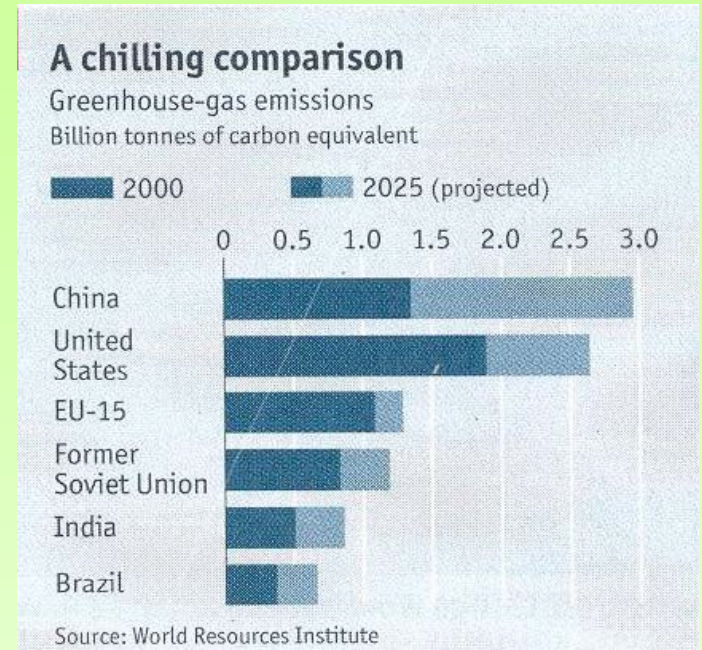
Global Environment (GHGs) Issues

- Public transport
- City form and car usage
- Energy inefficient buildings
- Solid waste/ methane generation
- Industry-specific mitigation activity

## Adaptation

Asian cities are predominantly on the coast on large rivers

- Flood protection
- Storm surge/ sea rise proofing
- Food supply assurance



# Climate Initiatives Globally

## Mitigation

## Adaptation

## Both

<b>Global Environment Facility (GEF) Climate Change Focal Area</b> (\$250 m/ year)	<b>Least Developed Countries Fund</b> (GEF as administrator) (\$189 m)	<b>Special Climate Change Fund (GEF as administrator)</b> (adaptation priority, target \$75 m; mitigation, target \$15 m)
<b>Clean Technology Fund of the Climate Investment Funds</b> (WB as Trustee) (target \$5 b)	<b>Strategic Priority on Adaptation</b> (part of GEF Trust Fund) (\$50 m)	<b>Strategic Climate Fund of the Climate Investment Funds</b> (WB Trustee) Target: - Pilot Program for Climate Resilience \$500 m - Forest Investment Prog. \$500 m - Greening Energy Access \$500 m
	<b>Adaptation Fund</b> (GEF as administrator in cooperation with UNFCCC Secretariat) (\$100 m by 2009)	

## Key issues:

1. Reduction in the transaction costs of CDM mechanisms
2. Ways to bridge current levels of carbon credits and investment cost for climate friendly infrastructure eg busways – a ‘sustainability gap’ financing mechanism is needed
3. Project formulation capacity needs to be enhanced and upscaled
  - The Cities Development Initiative for Asia as model

# **Current International Support for Climate Change Initiatives in Developing Countries**

**The Clean Development Mechanism under the UNFCCC was designed to address only the area of mitigation and focuses very much on technology change.**

**Key features of the current Clean Development Mechanism which make it user unfriendly for developing countries:**

- High levels of technical competence
- High transaction costs in time and expertise
- Competent specialized institutions for project implementation, monitoring and certification
- Unfriendly to 'multi-sector' projects

**It should be noted that these features are exactly the areas where on the previous slide, we saw developing countries have difficulty.**

**There are also VERs – Verifiable Emissions Reductions**

**But, like CDM, this mechanism is not, as yet, making a systemic difference**

# ADB's Existing Initiatives

Mitigation

Adaptation

Both

**Clean Energy Financing Partnership Facility**  
(\$95 m)

**Small Grants for Promoting Climate Change Adaptation**  
(\$1.2 m)

**Climate Change Fund**  
(\$40 m)

**Carbon Market Initiative Funds**

- **Asia-Pacific Carbon Fund**  
(\$151 m)
- **Future Carbon Fund**  
(target \$100 m)

**Water Financing Partnership Facility**  
(target \$65 m, including adaptation)

**Poverty and Environment Fund**  
(\$3.6 m, including adaptation)

# Are Asia's Capital Markets an Option?

## Capital Markets and Environmental Infrastructure

### Highly liquid, but short term:

- Asia has high levels of savings, banks and other financial institutions have money, BUT investments tend to be short term
- With no clear regulatory structure – high transaction costs
- Limited mechanisms to encourage institutions holding long term funds, such as pension funds and life insurance companies, to invest in infrastructure
- Lack of mechanisms for public sector debt finance, and to engage in Special Purpose Vehicles with the private sector
- Issues of inter-jurisdictional coordination make project formulation and structuring difficult

# Capital Markets and Environmental Infrastructure

## International markets

### Highly liquid, but lack access:

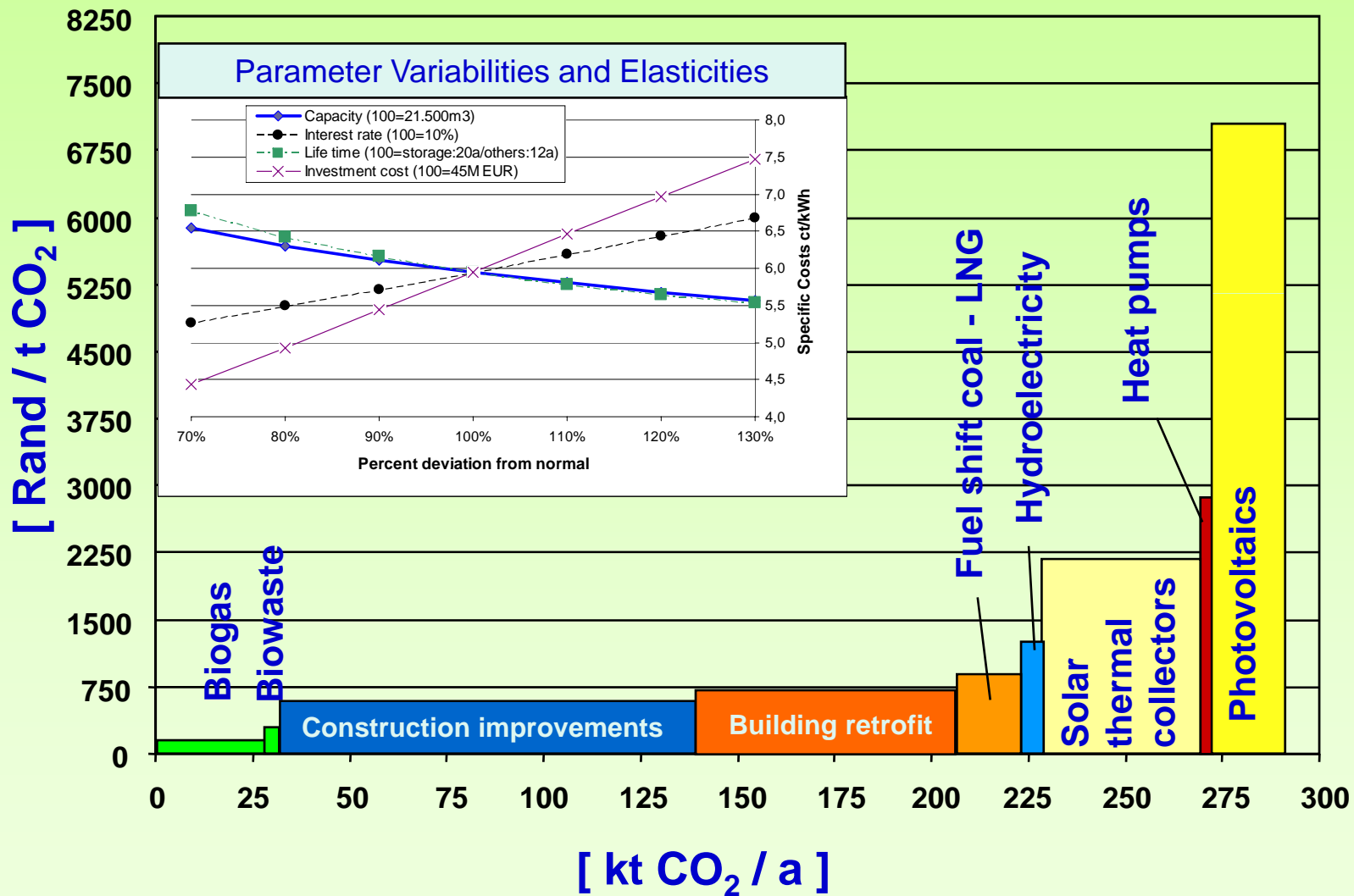
- Developed country pension funds and life insurance companies are highly liquid and seek long term investments, BUT they are highly risk averse and have unrealistic expectations of returns
- Lack of
  - regulatory structure,
  - mechanisms for engagement with local financial institutions and public sector proponents, and
  - Inter-jurisdictional issuesare even more of a problem

# Needed reforms to CDM post Kyoto

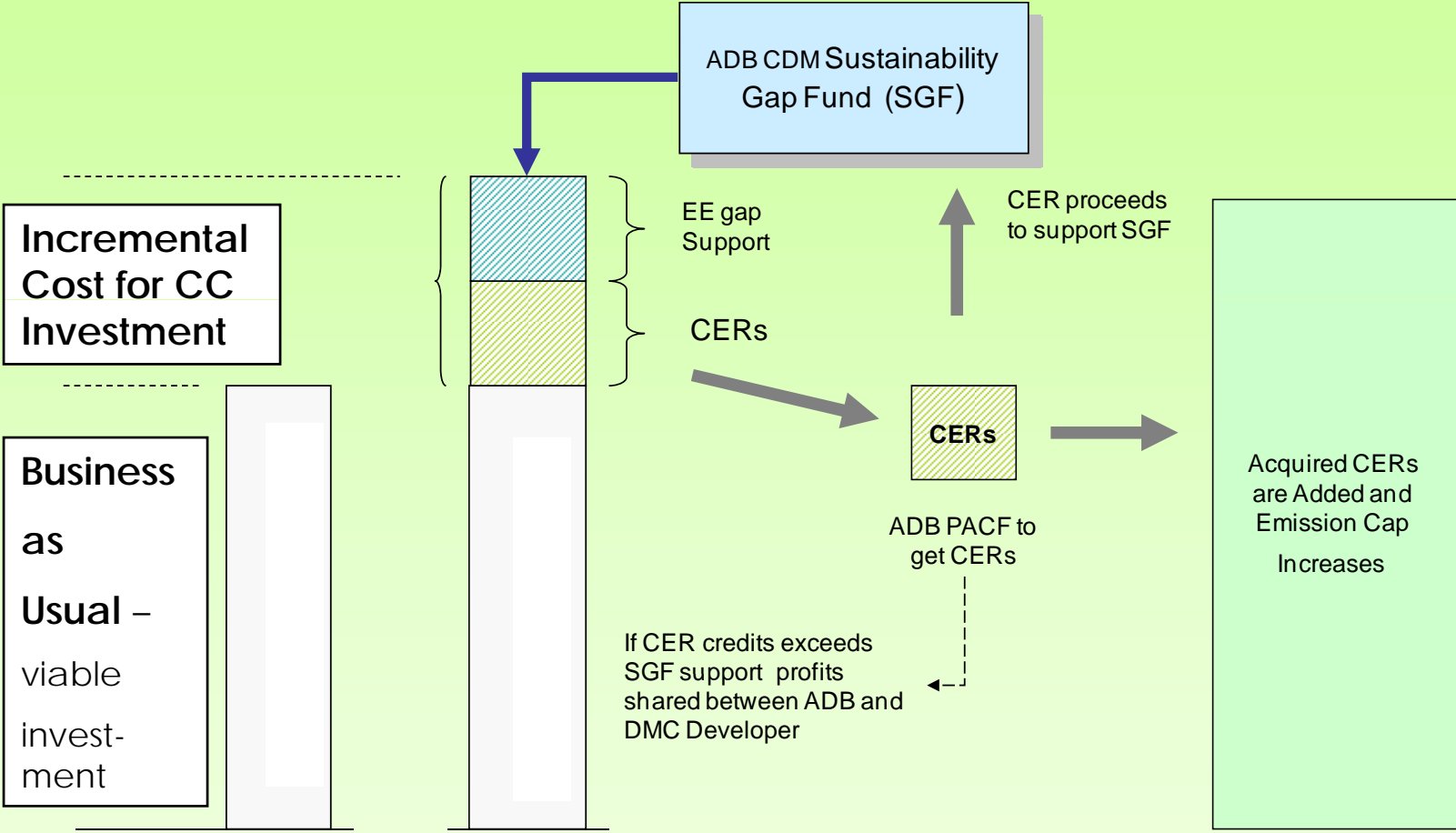
## Key issues on 'demand' and 'supply' sides:

1. Different approach to 'approved methodologies' - currently not easily applicable to cities, are multi-sector unfriendly and are technology driven
2. Reduction in the transaction costs of CDM mechanisms
3. Ways to bridge current levels of carbon credits and investment cost for climate friendly infrastructure eg busways – a 'sustainability gap' financing mechanism is needed
4. Project formulation capacity needs to be enhanced and upscaled
  - The Cities Development Initiative for Asia as model

# Demand Side Issues: Standardised Methodology Cost-Potential-Curve for Emission Reduction Measures



# Supply Side Issues: Sustainability Gap Financing Model



**To bridge the gaps  
between international and local finance  
and environmental investment**

**You need:**

1. More systemic, larger scale, approach to project identification
2. More accessible, larger scale, assistance to cities and other urban stakeholders in project structuring – particularly in respect to finance
3. Better coordination among donors/ developed countries and developing countries
  - **The Cities Development Initiative for Asia as model**

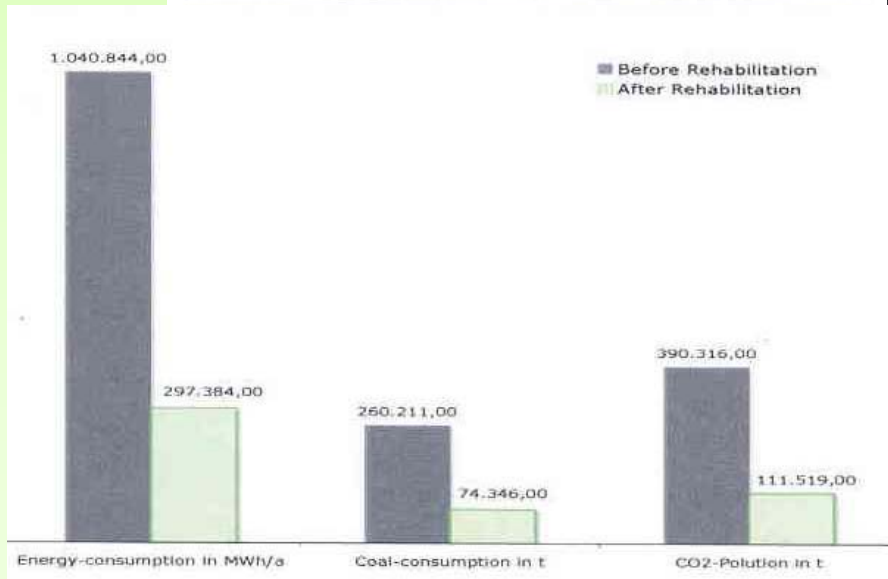


## Scope and Approach of the Cities Development Initiative for Asia

- Assist cities in ADB's DMCs to fill the gaps with advisory and capacity development support
- Link cities and their investment proposals to investment financiers – both local and international
- Demand-driven (application based) and flexible approach
- Start with 6-7 pilot cities in the ADB region, scale up to 25 by end 2009

# An example: energy savings for Mongolian housing > Model for retro-fitting?

## The Building – before and after



## The Savings

– energy, coal and CO2

➤ Equivalent to one out of 3 existing power stations

## The Financing

– ADB/CDM, KfW and local banks

**Thank You**