



Division of Technology, Industry and Economics

# Integrating the Environment in Urban Strategic Planning

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# Urbanization Challenges and Opportunities

- **Population:**  
**50% of the world population lives in cities today.**  
**70% expected by 2050**  
**All of the population growth** in the next four decades will be absorbed by urban areas
- **Resource pressure:**  
Cities consume over **75% of the world's natural resources**, use **60% - 80% of global energy** and are responsible for **75% of the CO2 emissions**
- **Economic driver:**  
**Urban based economic activities** account for **55% of GDP in LDCs**, **73% in middle income** countries, and **85% in the most developed countries**



# Complex urban-environment relationships



- Cities impact on ecosystems around them
- Cities rely on resources from their hinterland
- Risk of over-exploitation of natural resources
- Increasing urban population and rising urban poverty
- Environmental degradation hinders city development and reduce their attractiveness
- Continued availability of environmental resources will assist long-term urban development

=> Many development issues are directly linked to the environment. Yet, urban management does not sufficiently take in consideration the environment.



# Instruments for Environmental Integration (1)

## Policy Instruments

= guiding principles for urban decision-makers

- **Information Instruments**
- **Voluntary Instruments**
- **Economic Instruments**
  - Negative: Charges, taxes on emissions or products
  - Positive: tax rebates, financial support, tax credits
- **Regulatory Instruments**
  - Regulations; 'Polluter pays principle'



## Instruments for Environmental Integration (2)

### Process Instruments

= urban planning process can be used to build consensus, to develop horizontal cooperation and creates new partnerships. They can also be used to prioritize issues and to create a vision or roadmap for the future.

- **Visioning**
  - Task Forces, Round Tables, Expert Panels, Workshops
- **Participatory Methods**
  - Methods and tools of Community-based Planning



## Instruments for Environmental Integration (3)

### Planning Instruments

= variety of methods by which urban development plans can be developed and implemented

- **Environmental Profiles**
- **SWOT-Analysis**
- **Strategic Environmental Assessment**
  - To ensure that environmental impact of policies and programmes are identified, assessed, mitigated, communicated to decision-makers and the public
- **City Development Strategies**



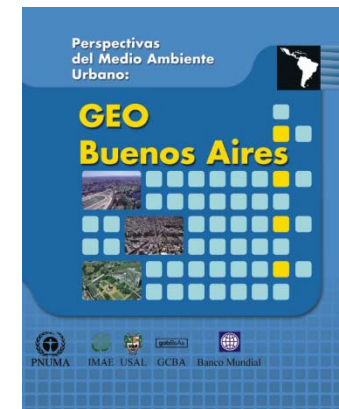
# Example: Environmental Assessment



- To assess urbanization effects on the environment
- Interaction between social, economic and environmental dimensions
- Information on impacts on urban environment
- To obtain data for decision-making and action
- Basis for monitoring state of environment over time

## UNEP GEO Cities Assessments

- Analysis of social, economic, policy, territorial characteristics of urban development
- Methodology for cities to conduct Integrated Environmental Assessments



## Instruments for Environmental Integration (4)

### Management instruments

= to direct and administer urban planning decisions

- **Environmental Budgets and Audits**
  - Environmental indicators measured in physical quantities running parallel to financial budgeting
  - EcoBudget
- **Environmental Quality Management**
  - Air Quality Management

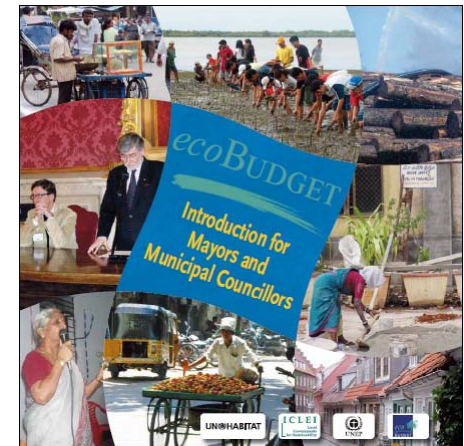




# Example: EcoBudget



- Environmental Management System
- To plan, manage, report and evaluate consumption of natural resources of a city
- Complements the traditional budget by environmental budget
- Measures natural resources instead of money
- Accounts and indicators developed for each natural resource
- Mirrors the phases of a municipal financial budgeting cycle



# The UNEP Urban Environment Programme

## The Urban Programme aims to:

- Integrate the urban dimension in key global environment issues
- Promote the link between local and global agendas and action
- Promote resource efficient and sustainable cities
- Make the case of integrating environment in strategic planning at city level and to provide technical assistance to cities



## Integrated environmental planning in cities

- Joint work programme with Cities Alliance
- Environment is an asset, a natural resource capital, which needs to grow rather than deplete
- Develop a methodology and toolkit with case studies to support cities in better integrating the environmental dimension in their long-term strategic planning
- Ensure that the vision and strategy developed in city will use environmental resources sustainably





# Global Reporting GHG Framework for Cities



- Consistent with IPCC guidelines and WRI/WBCSD GHG Protocol
- Standard calculates emissions on a per capita basis
- Cities can compare performance and analyze differences
- Open source standard
- More concerted city action to reduce urban climate footprint
- Responding to the need of providing cities with an open, global and harmonized Protocol

# Country vs. City Emissions

GHG Emissions (tCO<sub>2</sub>e/capita), 2005 and 2007

Argentina	7.6	Buenos Aires	3.8		
<b>Bangladesh</b>	<b>0.4</b>	<b>Dhaka</b>	<b>0.6</b>		
Canada	22.6	Calgary	17.7;	Toronto	9.5
<b>China</b>	<b>3.4</b>	<b>Beijing</b>	<b>10.1;</b>	<b>Chongqing</b>	<b>3.7</b>
Finland	14.8	Helsinki	7.0		
France	8.7	Paris	5.2		
India	1.3	Delhi	1.5;	Kolkata	1.1
Republic of Korea	11.5	Seoul	4.1		
Spain	9.8	Barcelona	4.2;	Madrid	6.9
<b>South Africa</b>	<b>9.9</b>	<b>Cape Town</b>	<b>11.6</b>		
Sweden	7.2	Stockholm	3.6		
<b>USA</b>	<b>23.6</b>	<b>Denver</b>	<b>21.5;</b>	<b>New York</b>	<b>10.5</b>



# UNEP Green Economy Initiative

- **Launched in 2008 by UNEP, macroeconomic analysis of policy reforms and investments** in green sectors and in greening brown sectors
- To offer a **viable alternative to the unsustainable status quo**

## Three sets of activities

- **Green Economy Report** and related research materials
- **Providing advisory services** in specific countries
- **Engage in implementing the Green Economy Initiative** with a wide range of partners



# Economic Benefits of Green Cities



## Agglomeration Effects

Doubling the employment density of an urban area in developed countries typically raises its labor productivity by around 6%.

## Lower Infrastructure costs

Streets, railways, water and sewage systems come at lower cost per unit the higher the urban density.

## Reduce Congestion

Congestion costs 1%-1.3% of GDP in developed region and 3% of GDP in developing region.

## Create Green Jobs



# Social and environmental Benefits of Green Cities



## Enhance Community Cohesion

Community cohesion is an important component of social life in cities and affects individuals, families and social groups

## Promote Social Equity

Construction of green cities can improve poor people's living conditions

## Improve Public Health

## Increase Road Safety

For many low- and moderate-income countries, the cost of road crashes represents between 1%-3% of GDP.

## Guarantee Food Security







# Conclusions

## Cities and Green Economy



- Cities as **platform** for delivering environmental sustainability, economic growth and well-being (inclusive growth)
- Cities are **central instrument** for de-linking higher living standards and increasing resource consumption
- Projecting the various forms in which cities might be expected to grow over the next few decades
- Providing public policy recommendations for transforming existing cities, and delivering new ones, taking into account regional differences in climatic conditions, culture and societal values



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