



# **Features of an eco-city from an international perspective**

**Gino Van Begin**

**ICLEI – Local Governments for Sustainability**

**International Forum on the “FutureCity” Initiative  
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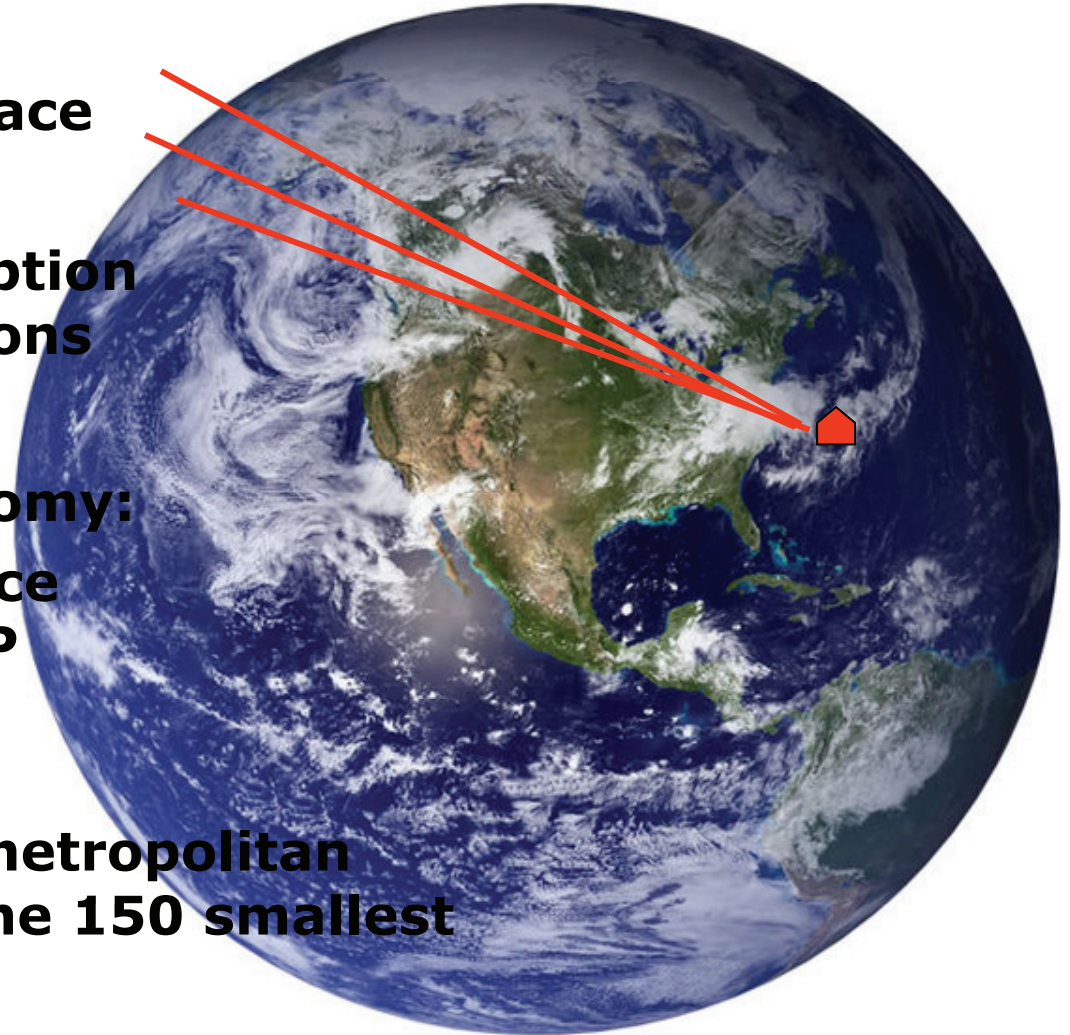


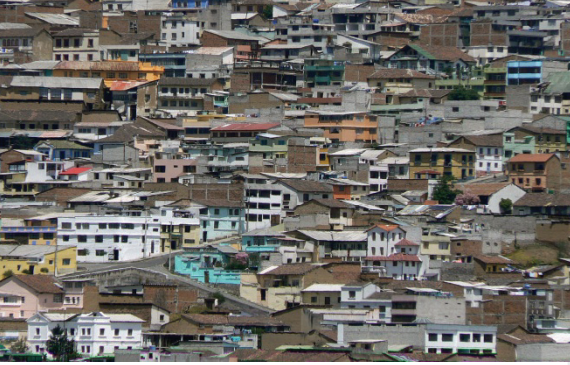
# Cities on the globe

**1.2% of the Earth's surface**  
**50% of the population**  
**75% of energy consumption**  
**and CO2 emissions**

**Hubs of the global economy:**  
**100 largest cities produce**  
**30% of the global GDP**

**1 Megacity like Tokyo metropolitan**  
**is larger than each of the 150 smallest**  
**UN member states**



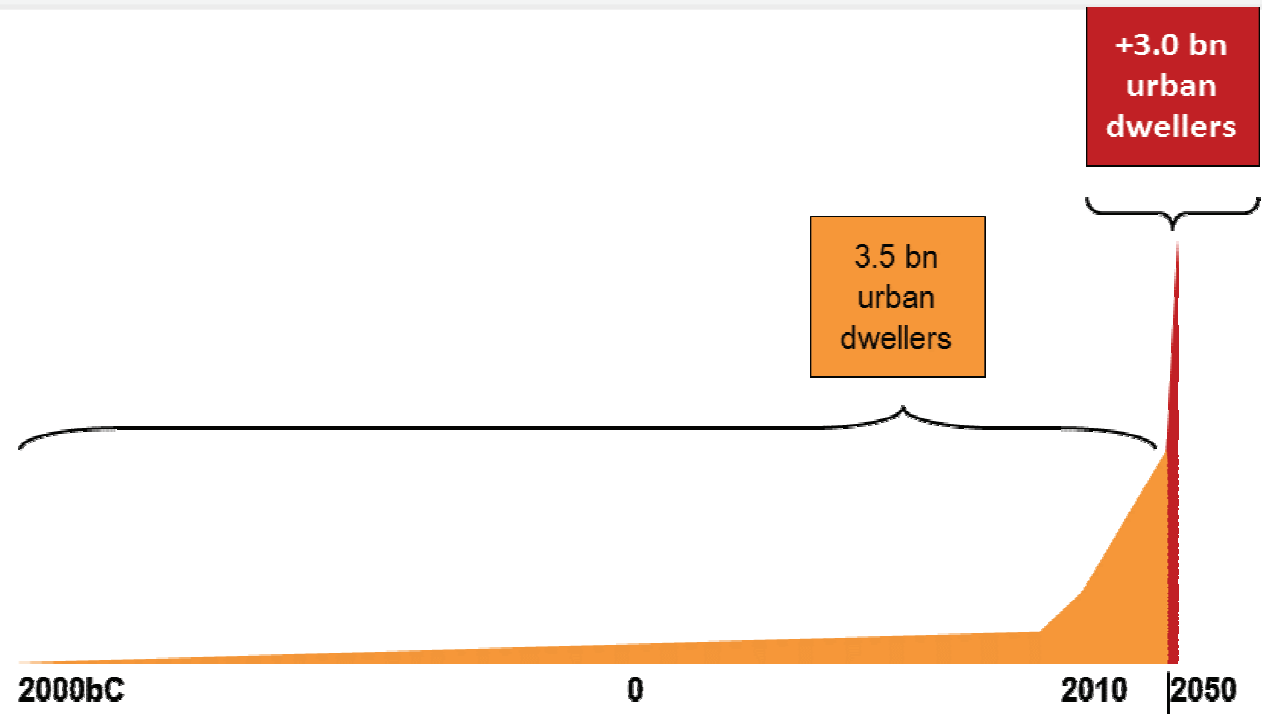


# World population growth, urbanization

**Unbroken global trends**

**„By 2050, within 40 years, we must build once more the same urban capacity as we have built over the last 4000 years.“**

**The 1:100 challenge**





# **Cities: rapid and radical transformation towards Eco-cities:**

- **Eco-efficiency, low-carbon**
- **Climate- and disaster-resilience**
- **Green urban economy**
- **Low risk**
- **Healthy & happy community**



# Eco-city



## Ecological

„Seeing something in the context of ecosystems“  
“Causing minimal damage to the environment”



City



## Economical

„Using the minimum required“  
“Not wasteful of time, effort, resources”



# Location and land-use



***Spatial planning paradigm:***  
**'decentralized concentration'**

**Based on spatial plan,  
not led by investors' interests**



**Availability of local resources:  
water, ground, climate, natural  
ventilation**

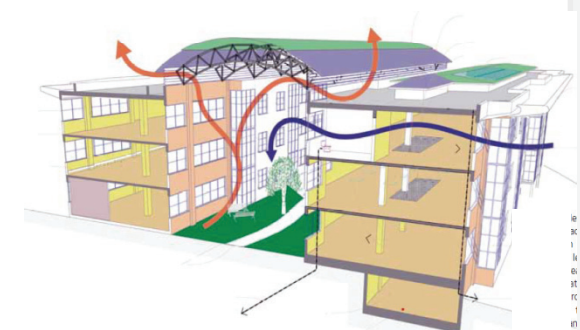


**Avoid prime agricultural land  
Re-use brownfield-land**

**Integration of agriculture and forestry  
into urban areas**



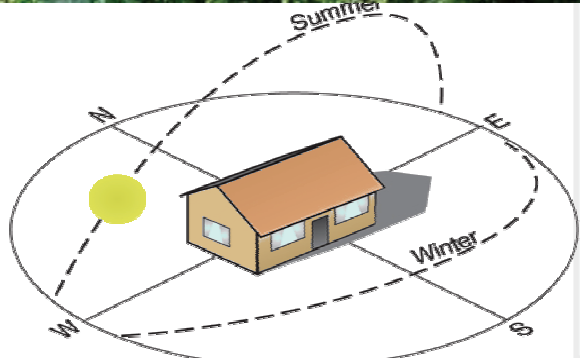
# Urban design



***Planning paradigm:***  
**Neighborhood-based**  
**Human scale**  
**Mixed use**



**Inter-connected and accessible**  
**Greenspaces woven into urban fabric**  
**Solid construction for long-life buildings**



**Resilient , low-carbon, low-risk**  
**buildings and infrastructure**

# Transport



## *Planning paradigm:*

**Priority to EcoMobility and integration of transport modes**

- 1. Walking (pedestrians)**
- 2. Bicycles, other non-motorized vehicles**
- 3. Light electric vehicles**
- 4. Public transport  
(trains, trams, buses, taxis, people mover, ...)**
- 5. Shared cars**
- 6. Mobility management**





# Energy

## *Planning paradigm:*

**Priority to energy security:  
efficiency, renewable energy and low-  
carbon, low-risk sources**

- 1. Avoiding energy use,  
reducing needs, saving energy**
- 2. Energy-efficiency in consumption**
- 3. Local renewable energy supply**
- 4. Local energy from biomass, waste etc.**
- 5. Renewable energy via regional/  
national grid**
- 6. Minimized use of coal and oil**
- 7. No excessive risks, no nuclear energy**



# Materials



***Planning paradigm:***  
**Decouple human well-being from material through-put**



- 1. Minimize material through-put (reduce)**
- 2. Re-use**
- 3. Cascaded downcycling, waste to energy, recovery of nutrients**
- 4. Treat and dispose waste safely**





# Water and sanitation

## *Planning paradigm:*

**Develop around water availability  
Secure local drinking water sources  
and supply**

- 1. Minimize (reduce) water demand**
- 2. Water-efficiency**
- 3. Cascaded re-use of greywater**
- 4. Treat and dispose sewage safely**
- 5. Sanitation separated from rivers and fresh water sources**
- 6. Treat industrial waste and secure proper transportation**



# Quality of Life



## Cross-cutting objectives



- **Affordability** – housing, transport, ...
- **Accessibility** – transport, social services, ...
- **Availability** - waste and sanitation services, ...





# Management



***Management principle:***

**Measure, set targets, secure political commitment, implement, monitor, evaluate**

**Involve users in design**

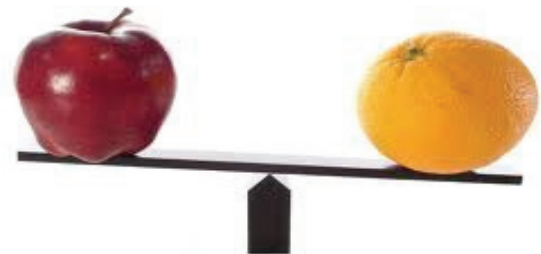


**Guidelines**

**Indicators and tools**

**Measurement**

**Reporting**



**Benchmarking, comparing**  
**Sharing successes**

# The Network

1,200 members in 70 countries

## ***100 Green Drivers***

XXL - 11 megacities of over 10 million

XL - 12 super cities of 5-10 million

L - 90 large cities of 1-5 million



## ***Green Innovators***

M - 460 cities of 100,000 - 1 million



## ***Green Inventors***

S - 650 towns up to 100,000

# ICLEI's roles

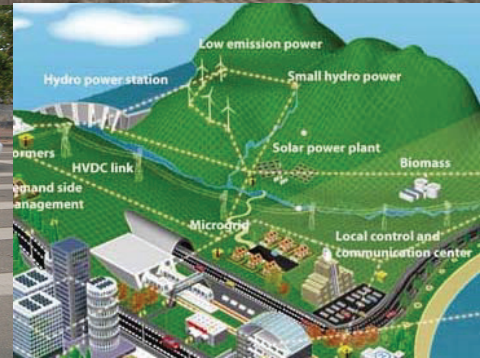
**Connecting  
leaders**



**Accelerating  
action**



**Gateway  
to solutions**



# Thank you

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