

**Suwon Conference on
Low Carbon, Green Cities in North-East Asia**

**Keynote speech:
Climate change and low carbon
cities in North-East Asia**

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Office for East and North-East Asia
17-18 October, 2011**

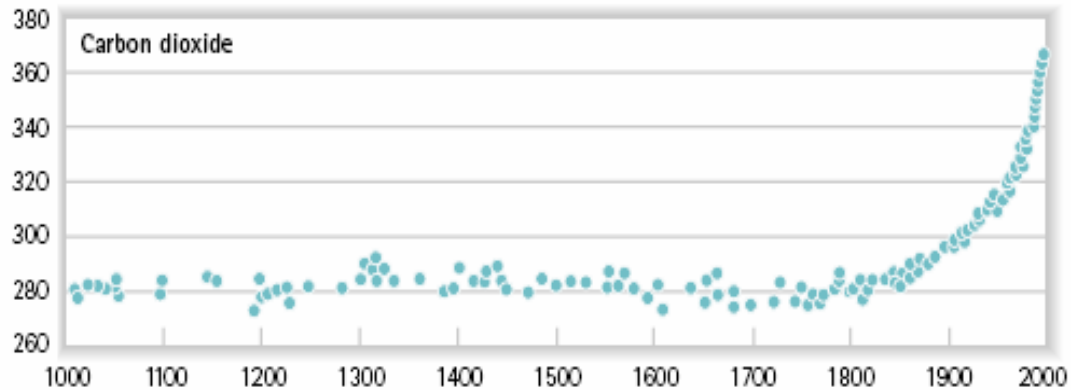


Trend of GHG Emissions

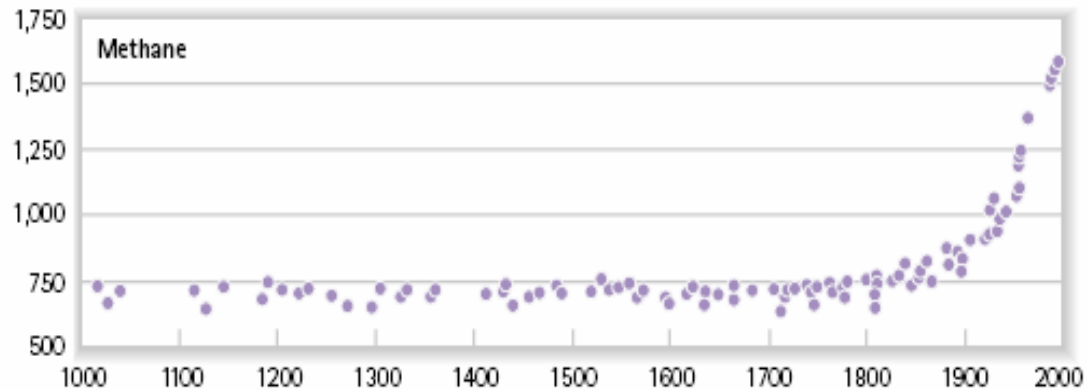
CO₂, CH₄ and N₂O Concentrations

- far exceed pre-industrial values.
- increased markedly since 1750 due to human activities.

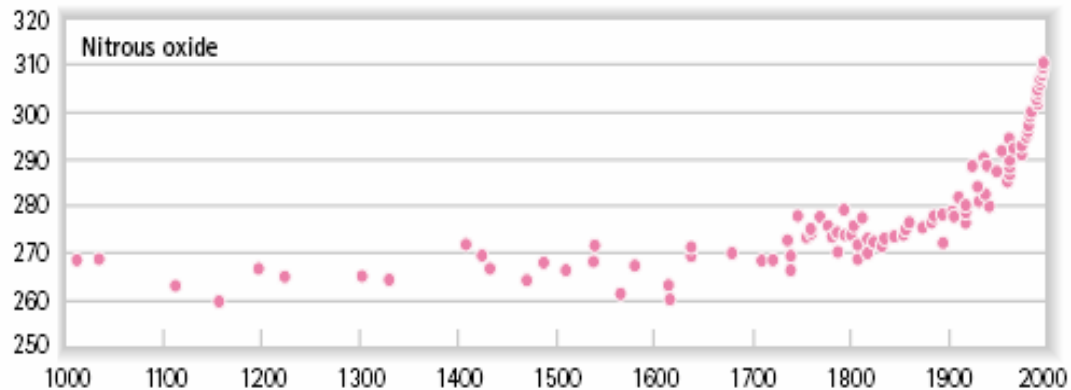
CO₂ (ppm)



CH₄ (ppb)

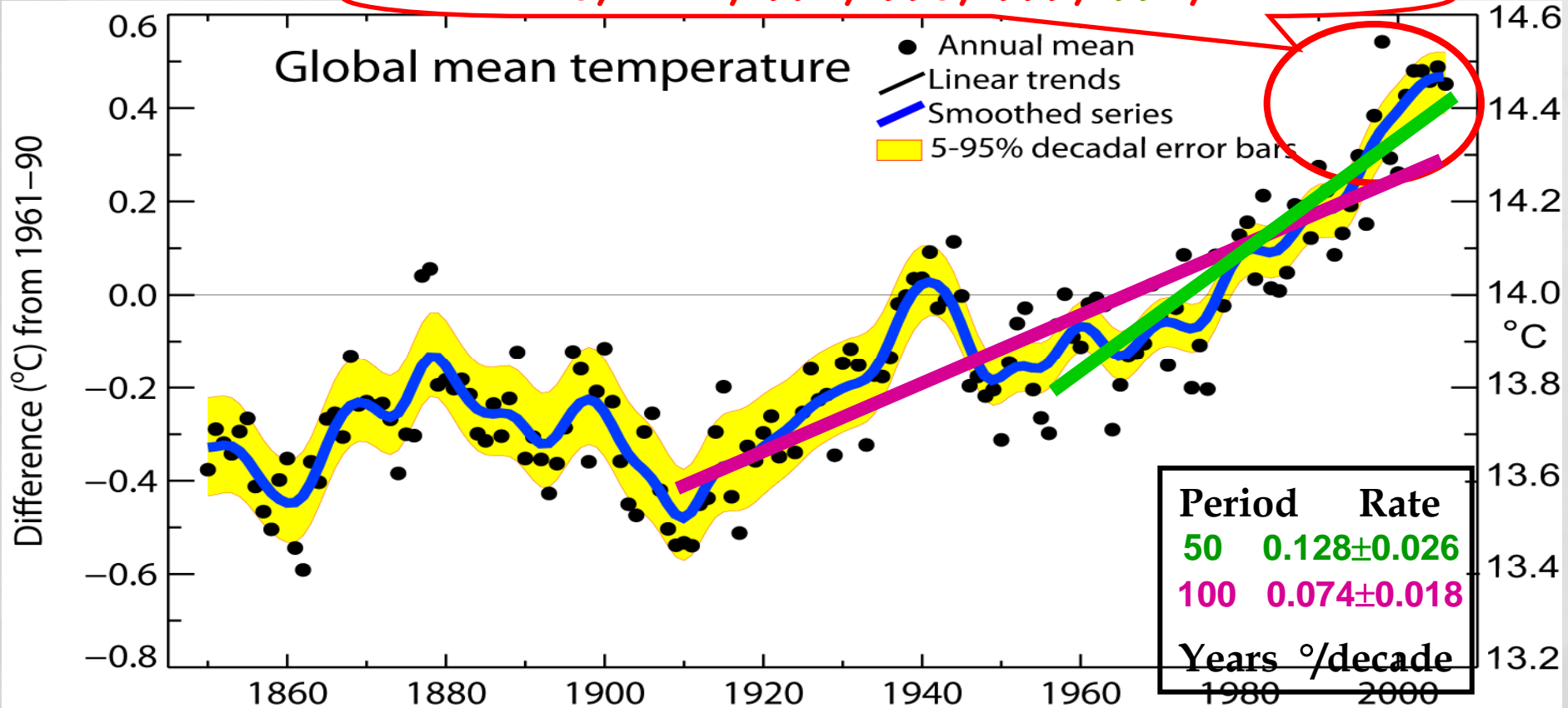


N₂O (ppb)



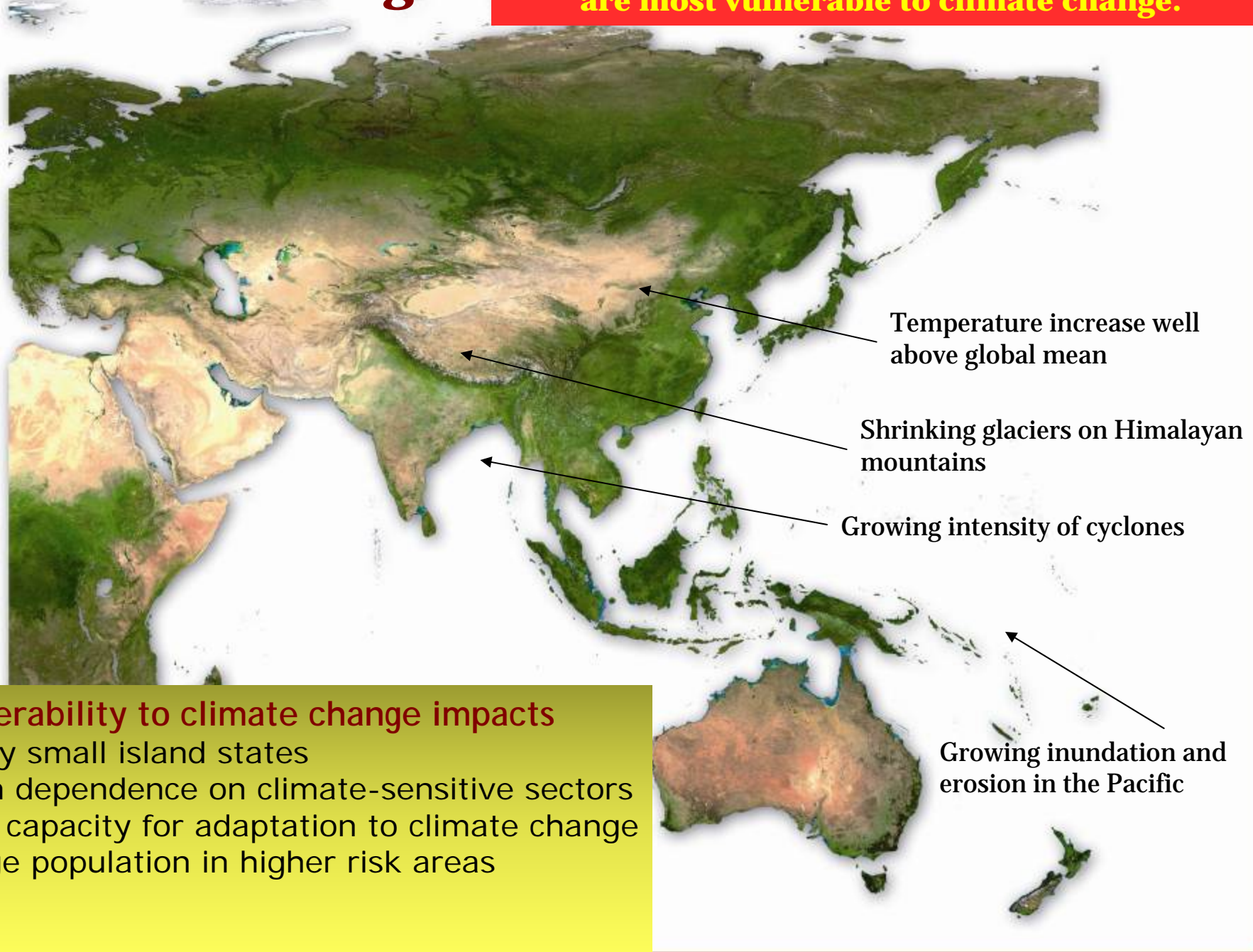
Rising Global Temperature

Warmest 12 years: 1998, 2005, 2003, 2002, 2004, 2006, 2001, 1997, 1995, 1999, 1990, 2000



Climate challenges

Asia-Pacific is home to 6 out of 10 countries that are most vulnerable to climate change.



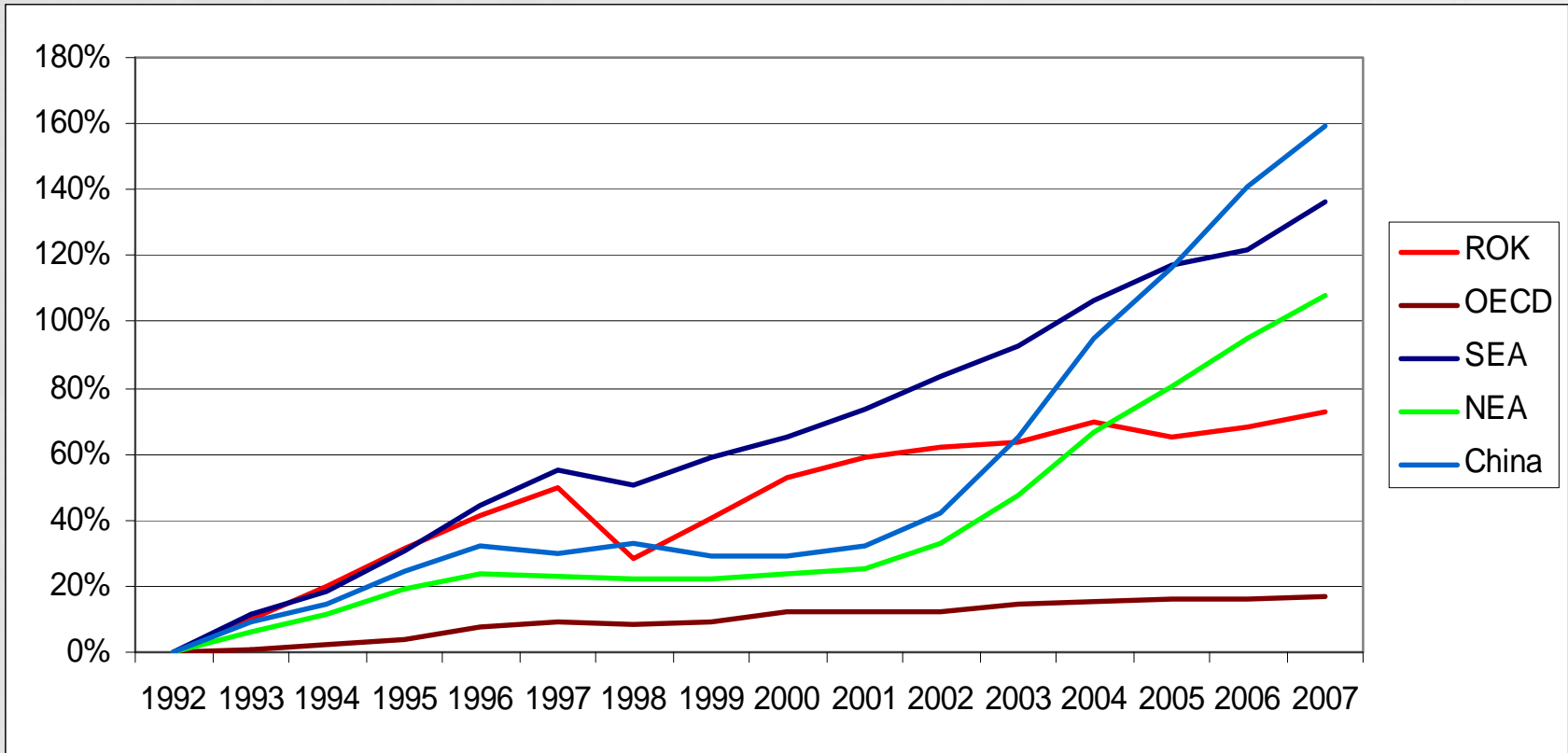
Vulnerability to climate change impacts

- Many small island states
- High dependence on climate-sensitive sectors
- Low capacity for adaptation to climate change
- Large population in higher risk areas

CO2 emissions in North-East Asia, South-East Asia and Asia-Pacific

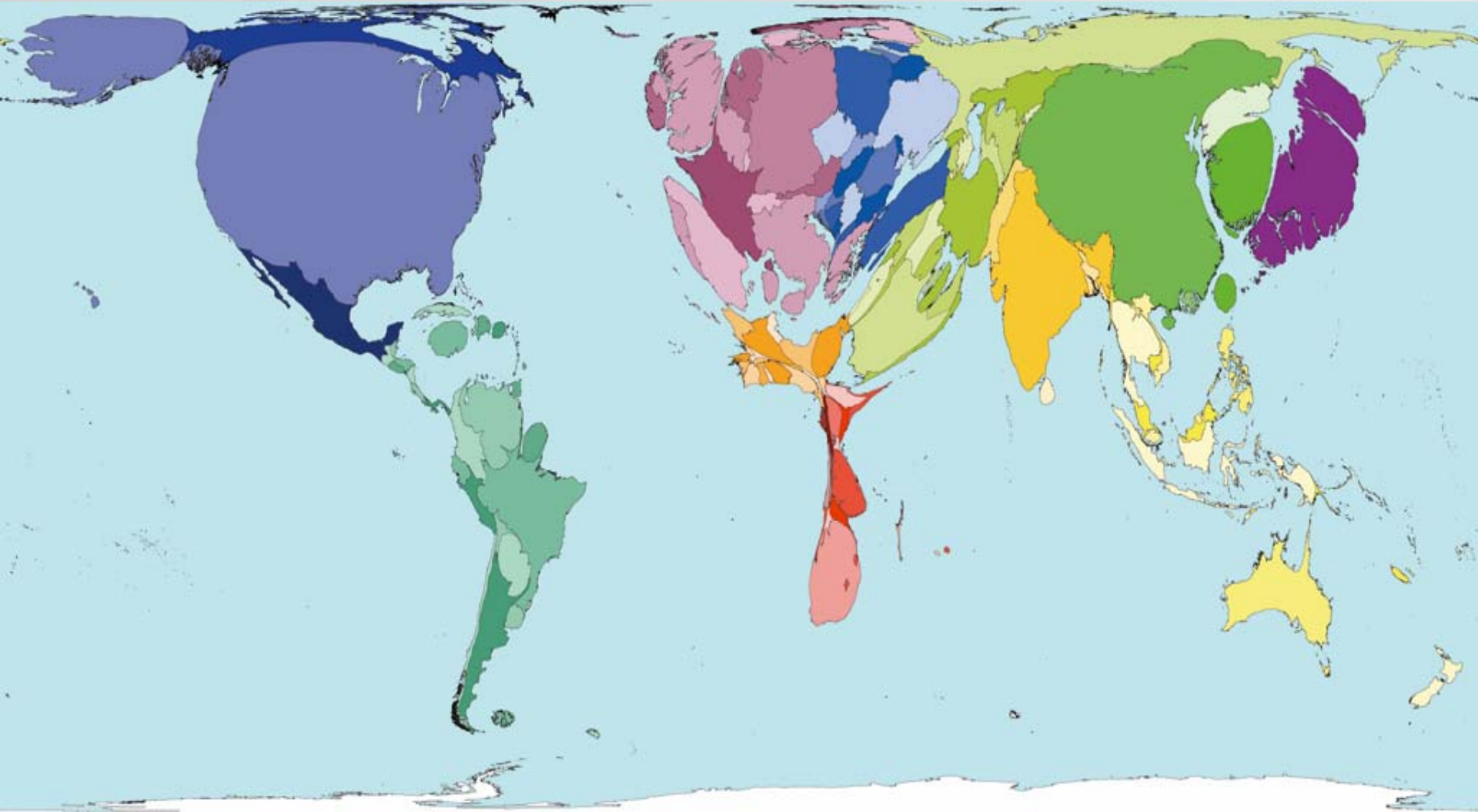
- Asia-Pacific region witnessed tremendous economic growth in recent decades but at environmental cost
- The fraction of North-East Asia (NEA) in global CO2 emissions to increase from 20% in 1990 to 35% in 2030
- North-East Asia accounts for almost 60% of total Asia-Pacific GHG emissions, while South-East Asia accounts for 10%
- China as the global top emitter of GHG accounts for more than 65% of CO2 emissions in NEA and about 20% of global emissions

Trend of CO2 Emissions from North-East Asia and South-East Asia

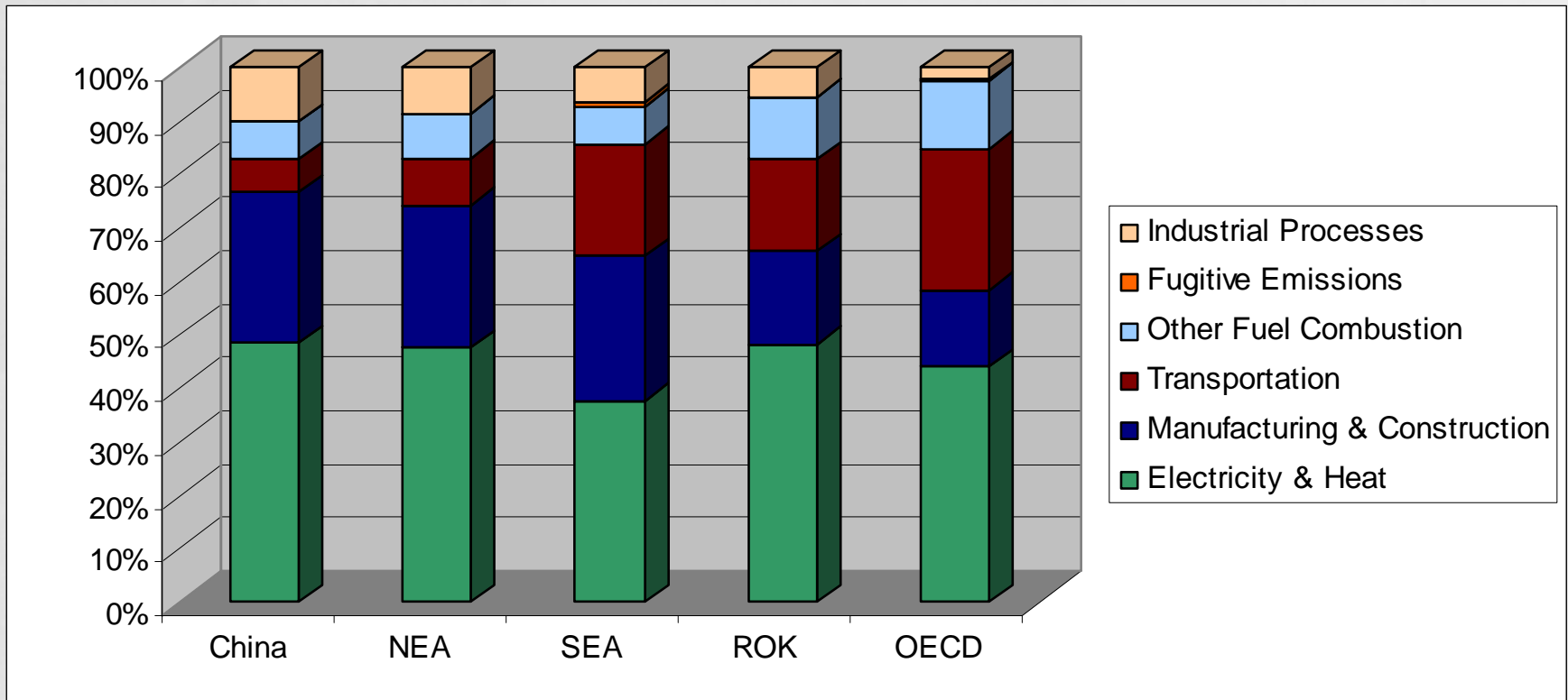


Source: CAIT, WRI

Size of Countries in the context of Carbon Emissions



CO2 Emissions by Sectors in North-East Asia and South-East Asia



Source: CAIT, WRI

Areas of Low-carbon Action

Sectors:

- Electricity & heat
- Manufacturing
- Transport
- Agriculture

Voluntary targets

China: 40 to 45 % by 2020 from 2005 GDP's carbon intensity

India: 20~25% by 2020 GDP's carbon intensity

Indonesia: 26% from BAU by 2020

Republic of Korea: 30% from a BAU scenario by 2020 (- 4% below 2005 levels)

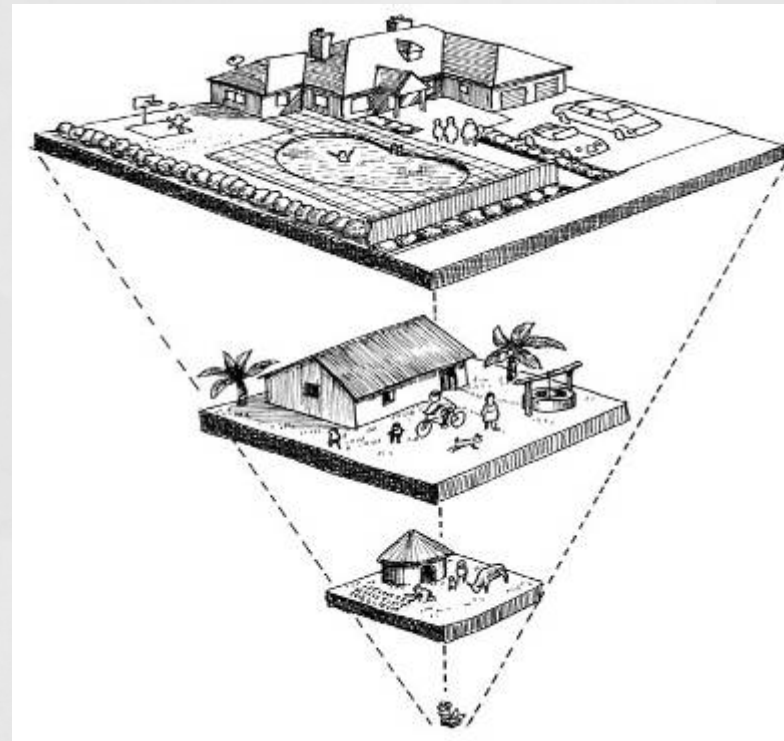
Major Actions

- Improving energy efficiency in all sectors
- Lowering carbon intensity of primary energy and electricity
- **Greening urban infrastructure and transport systems**
- Enhancing the assimilative capacity of natural sinks
- Lowering carbon intensity of production and consumption patterns

Cities: High Energy Demand and Carbon Emissions

Cities

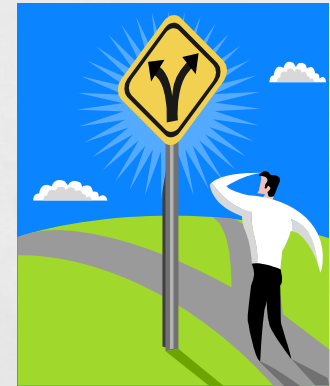
- Share a half of the world population
- Contribute to 2/3 of world's primary energy demand
- Higher commercial energy use due to higher income, affordability and accessibility of commercial energy
- Emit about 70% of global energy related CO₂ emissions
- Cities in developing countries: about 80% of addition increase (cumulative amount) in primary energy demand in cities from now to 2030



(Source: UNHABITAT and IEA)

Cities: Needs for Eco-efficiency

- Cities in Asia-Pacific are at a crossroads in developing and expanding infrastructure in support of economic growth



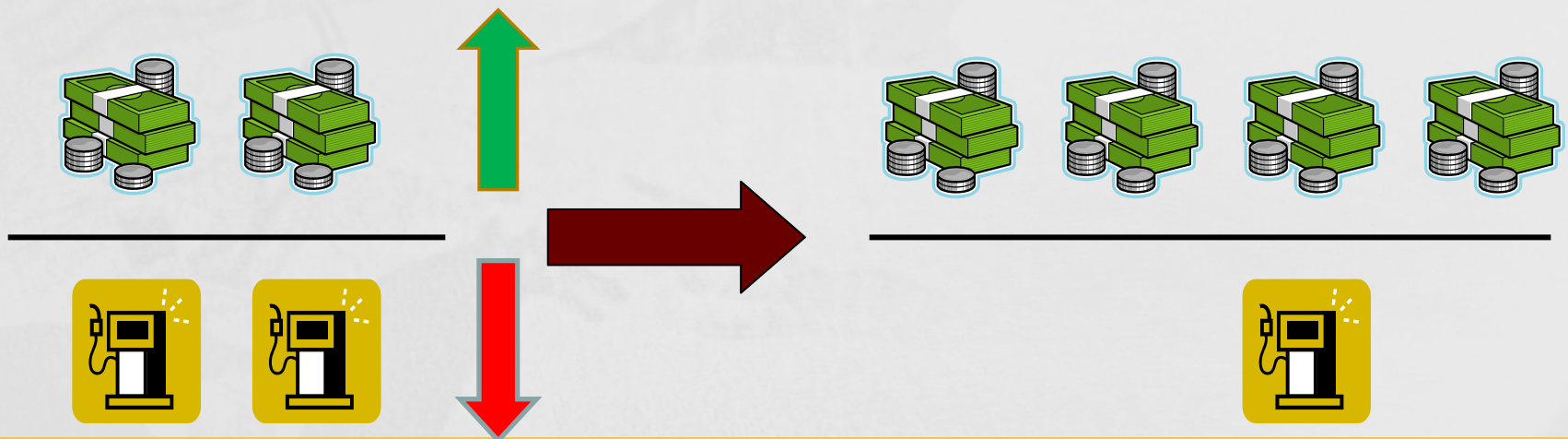
- Choices made in urban infrastructure development will have a major influence on the competitiveness, quality of life and sustainability of cities

- Choices made by cities will have a major influence on the ability of countries to achieve Green Growth and sustainable development

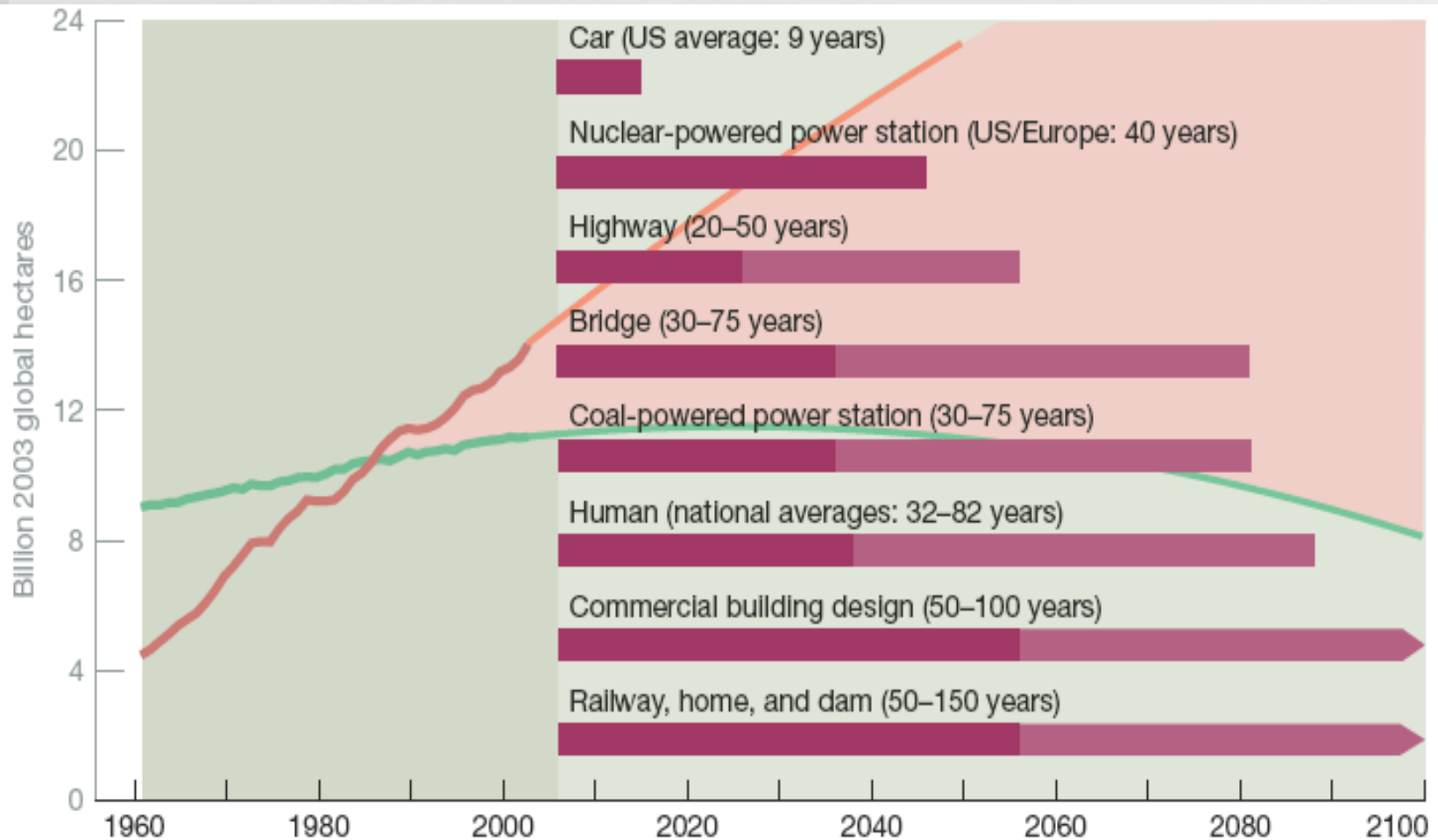


Eco-efficiency: the basic concept

Maximize the productivity of energy and material inputs to economic activities in order to reduce ecological impacts and resource intensity



Areas of EE Action: Greening Urban Infrastructure - path dependence



Areas of EE Action: Decarbonising Energy System

Providing favorable prices for electricity from RE sources: **Feed-in Tariff (FIT)**

the most common policy for promoting renewable energy

- guaranteed grid access
- long-term contracts for the electricity produced
- purchase prices based on the cost of generation

Setting targets for producers and consumers:
Mandated solar PV for buildings, Green power purchasing

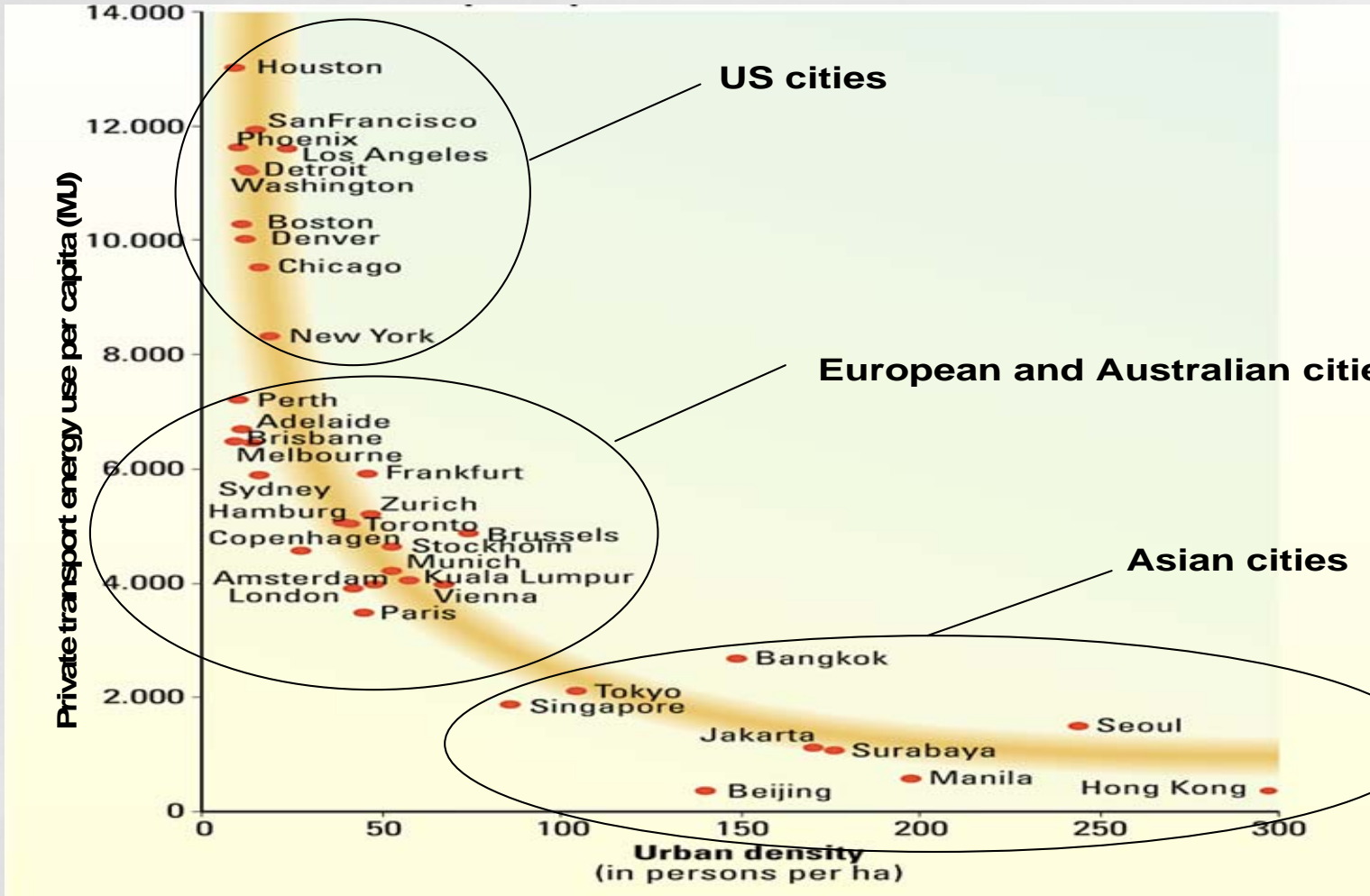


Areas of EE Action: Sustainable Transport for reducing carbon intensity and increasing the access of underprivileged groups

- **Public transport**
- **Non-motorized transport**
- **Fuel switch**
- **Reduced congestion**
- **Safer cities**
- **Better air quality**
- **Reduced GHG emissions**

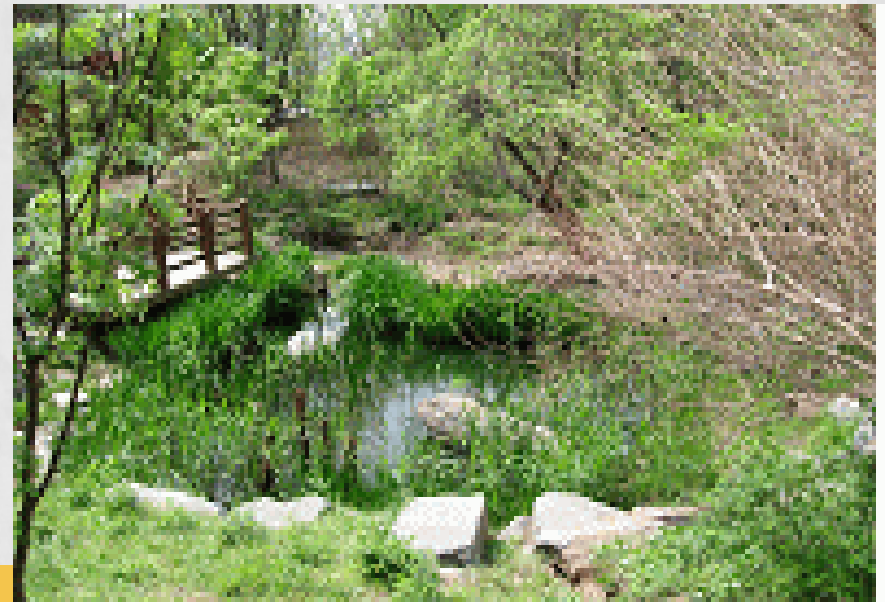
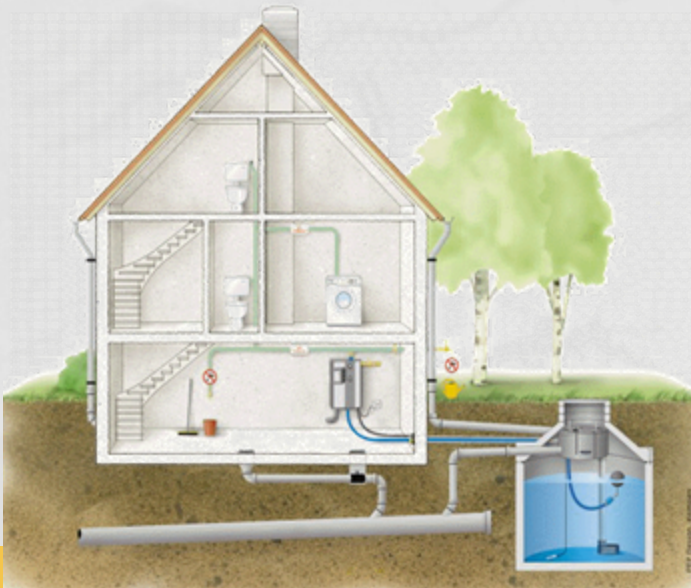


Areas of EE Action: Sustainable Transport



Areas of EE Action: Improving water resources management through nature

- **Integrated Water Resource Management**
- **Rainwater harvesting**
- **Effective use of grey water**
- **Green space for water and nature**
- **Natural buffer system for climate change adaptation**



Areas of EE Action: Making Buildings Greener

- Strengthen building codes for energy efficiency
- Turn buildings into sources of energy
- Making green building retrofits as a new business opportunity
- Putting caps on GHG emissions from buildings



Eco-Efficiency Partnership of NEASPEC

Improving eco-efficiency of economic development

Eco-Tax
Reform
Partnership

Public-Private-
Civil Society
Partnership

Urban
Governance
Partnership

- **Policy dialogues**
- **Joint research and training**
- **Demonstration activities**

Way Forward

- Identify technical measures and policy instruments and strategies for developing low carbon, green cities in North-East Asia
- Introduce eco-efficiency as an essential approach to promoting low carbon, green cities in North-East Asia
- Identify the role of cities in enhancing sustainable development in the subregion as well as in responding to national and global processes for Rio+20
- Build a partnership among North-East Asian cities for developing and implementing eco-efficiency approach at the local level