

Low Carbon Cities – 45th ISOCARP International Conference,
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Creating the incentives for low carbon cities

Professor Jacqueline McGlade

Executive Director

European Environment Agency





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We are the main information source for those developing, adopting, implementing and evaluating environmental policy, and the general public

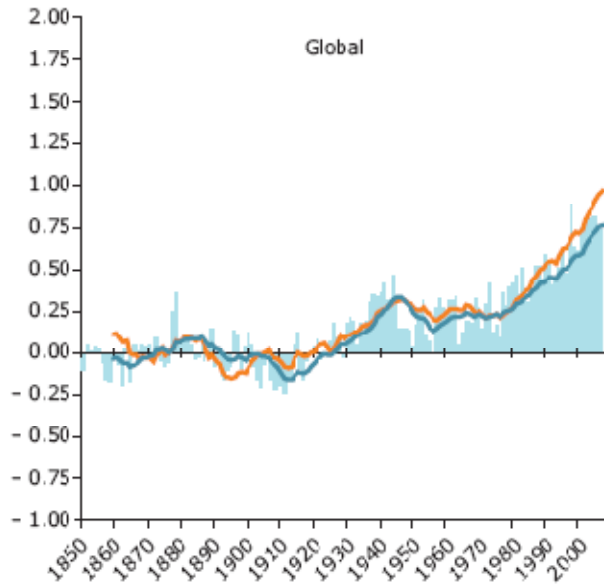


Global and European temperature increases

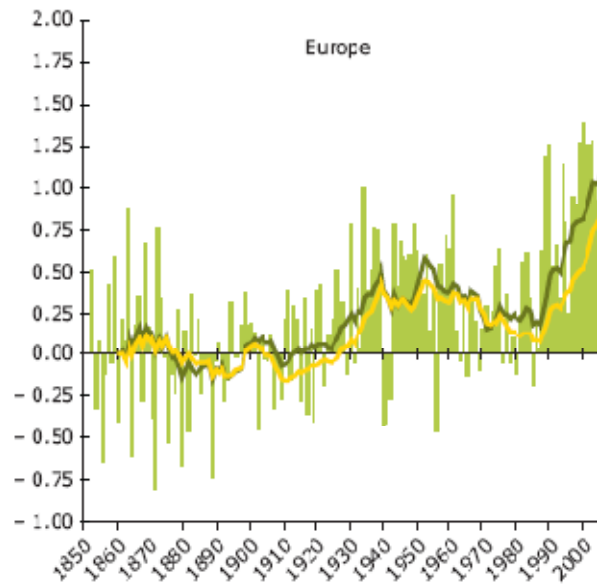
- Global temperature (2007) : + 0.8 °C (above 1850-1899 average)
- European temperature (2007) : + 1.0 °C (above 1850-1899 average)

past

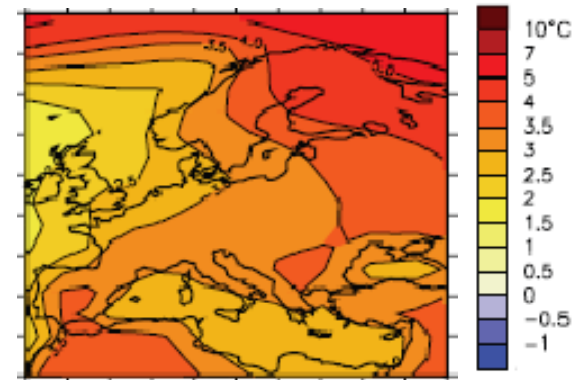
Temperature deviation, compared to 1850-1899 average (°C)



Temperature deviation, compared to 1850-1899 average (°C)



Observed global and European annual average temperature deviations 1850-2007



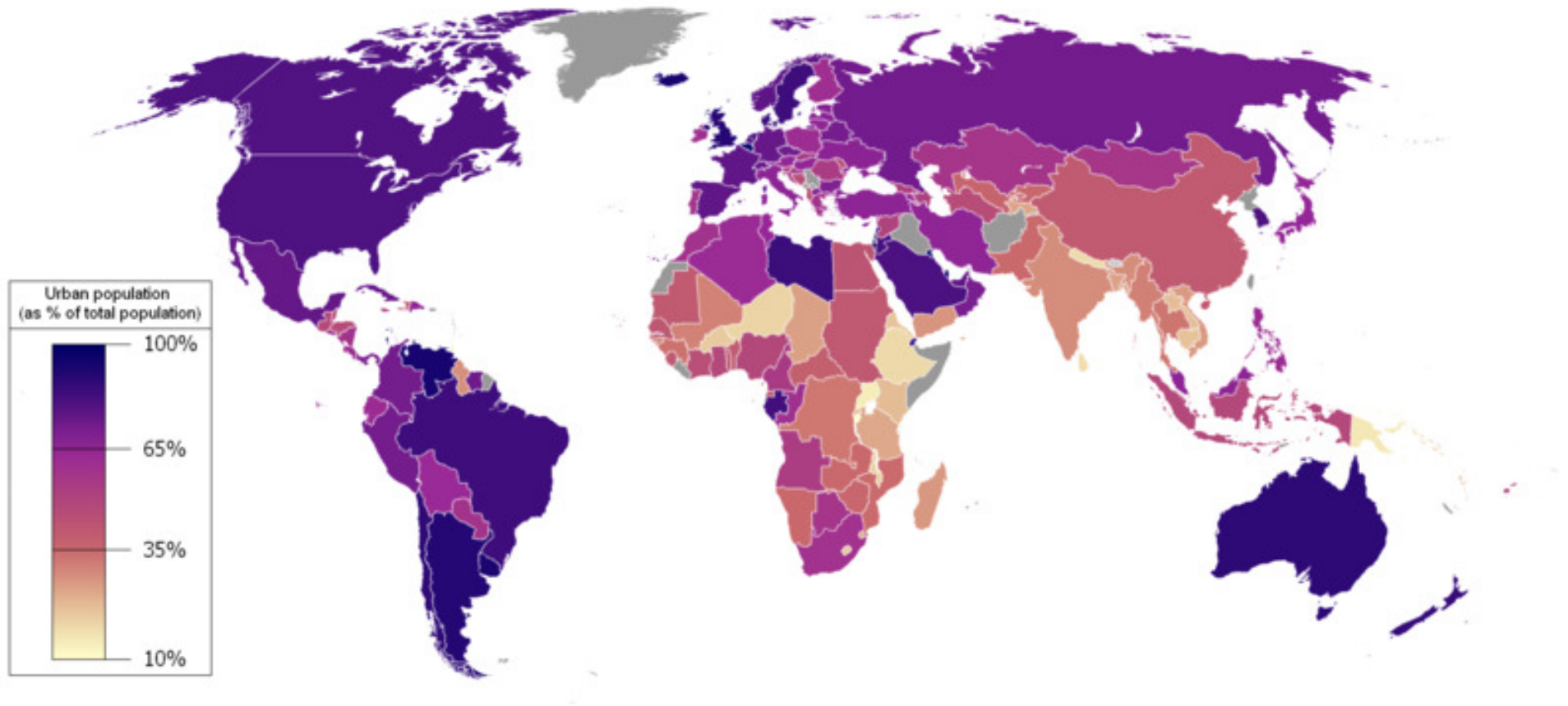
Modelled change in annual mean temperature over Europe between 1980-1999 and 2080-2099

- Global projection (1980-1999 to 2080-2100) : + 1.1-6.4 °C
- Europe (1961-1990 to 2080-2100) : + 1.0-5.5 °C

future

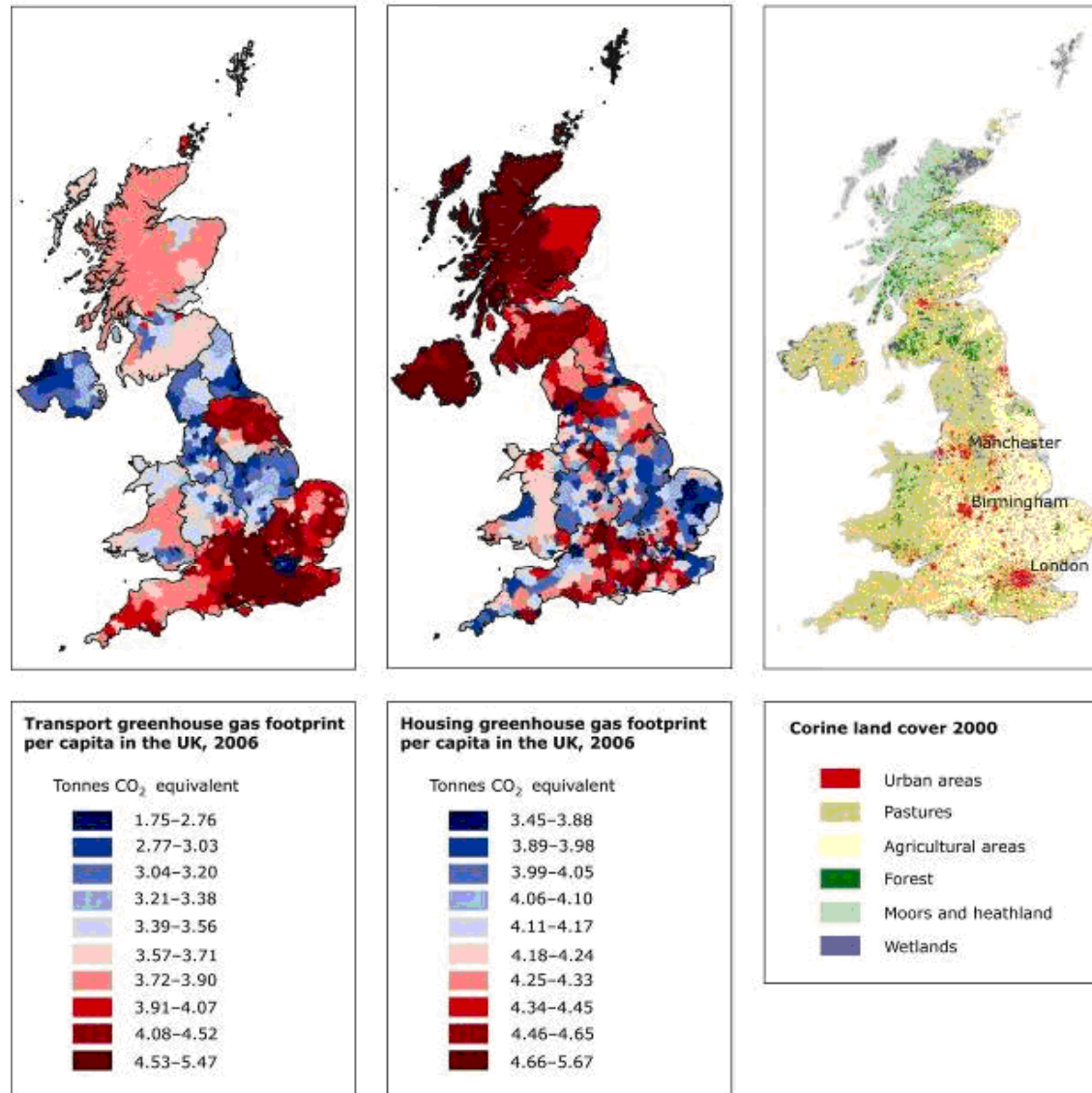


Urban population as % of total population



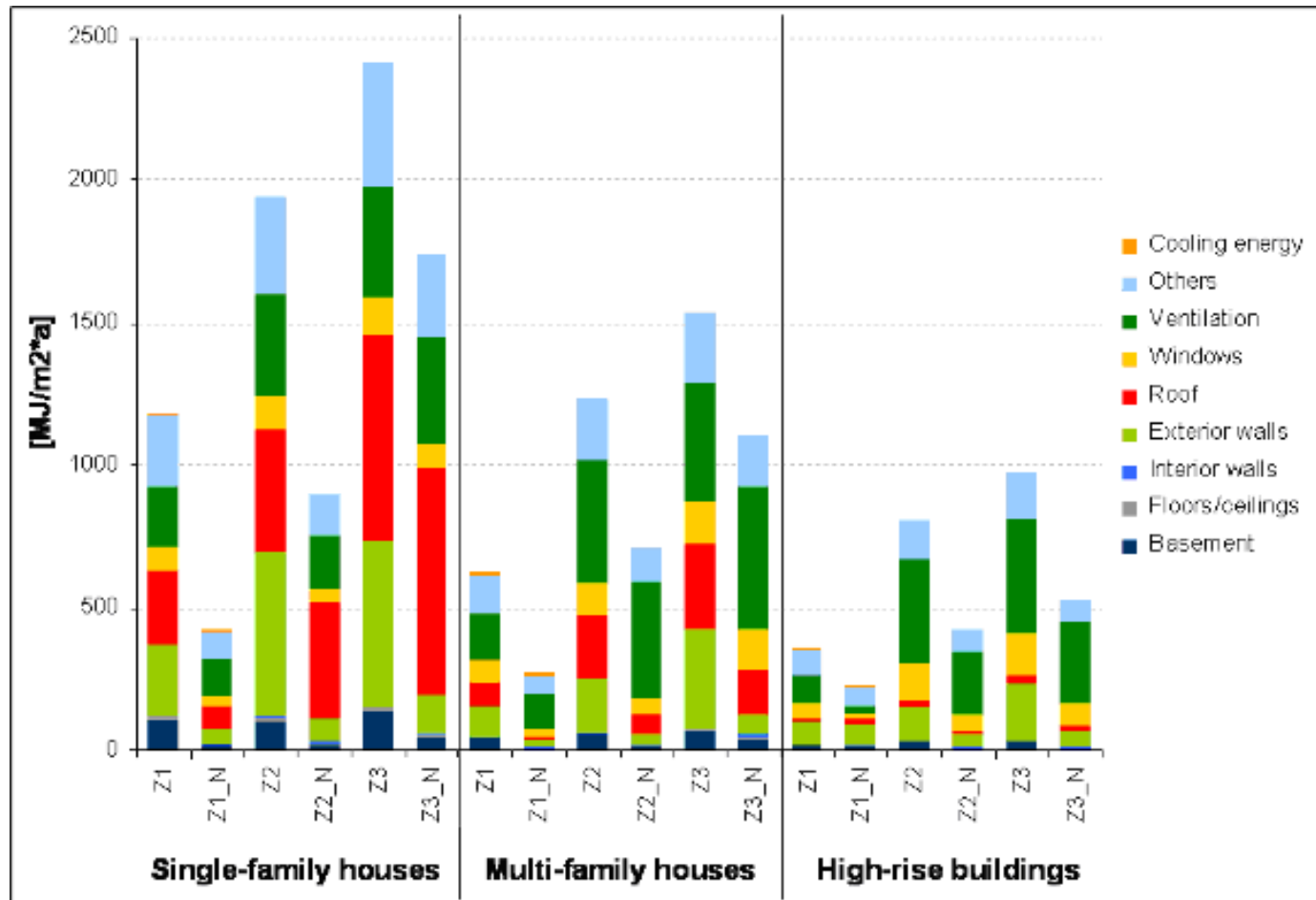
Source: UN Human Development Report

GHG footprints for transport and housing in the UK



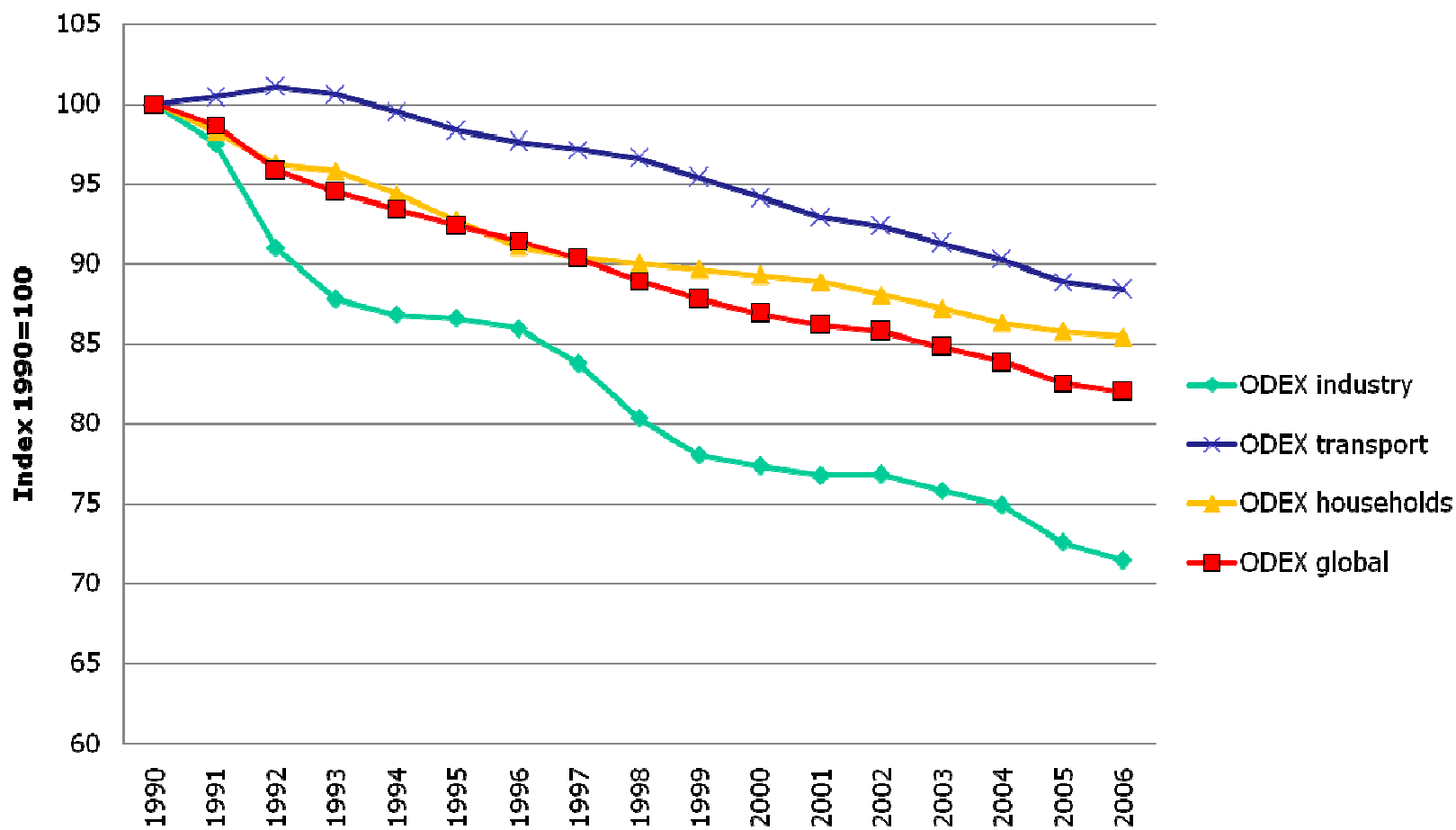
Source: Stockholm Environment Institute (2009), EEA (2009)

Energy consumption per m² in three types of dwelling



Source: IPTS-JRC

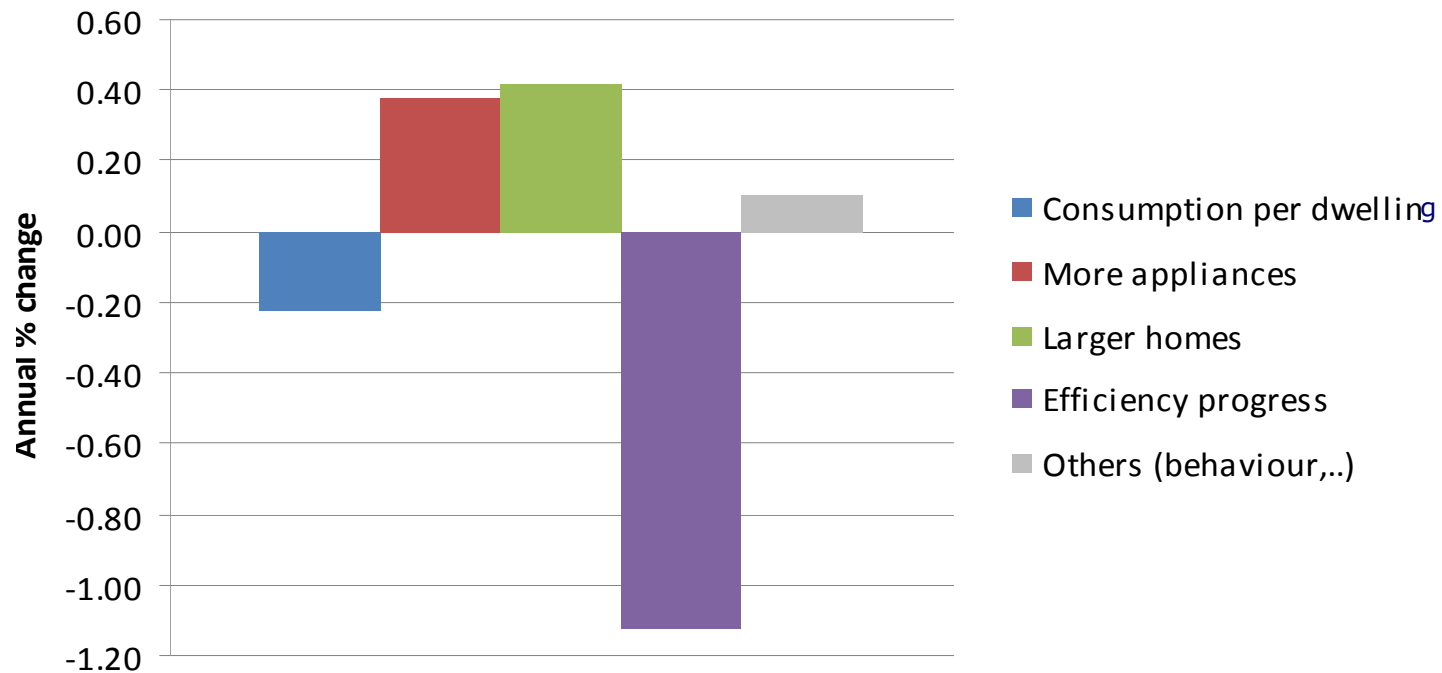
ODEX energy efficiency index, EU-27



Small efficiencies for households translate into huge savings for society



Improved efficiency is offset by changing behaviour



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Replace the Filter in Your Furnace

Latest News | Microsoft Hohm Interview
Resolved: Load Times
Hohm and Solar

You're the key to Hohm
Be the first to conserve energy with Hohm and help us refine the recommendations during our U.S. beta.

Tons of carbon saved
Leaving your car at home just 2 days a week can save 1,590 lbs. of greenhouse gas emissions each year!

Lighting
Replacing a single 100-watt incandescent bulb with a 32-watt CFL can save \$30 in energy costs over the life of the bulb.

Appliances
A refrigerator built in 1993 consumes twice as much energy as new models.

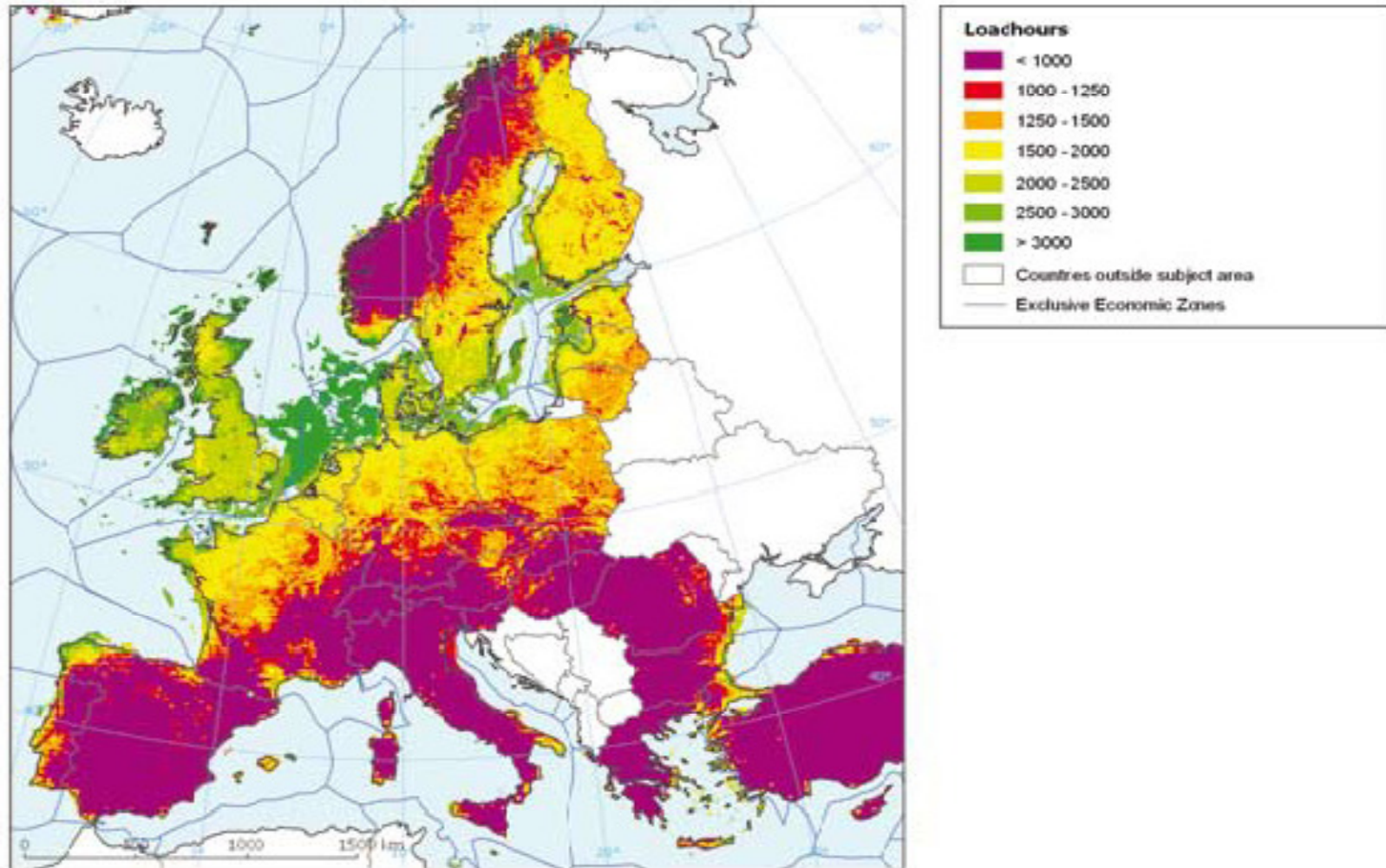
Internet 100%



Systemic change in the transport sector presents huge challenges and opportunities



Wind energy potential in north-west Europe is huge



Many diffuse renewable resources are better suited to decentralised energy systems

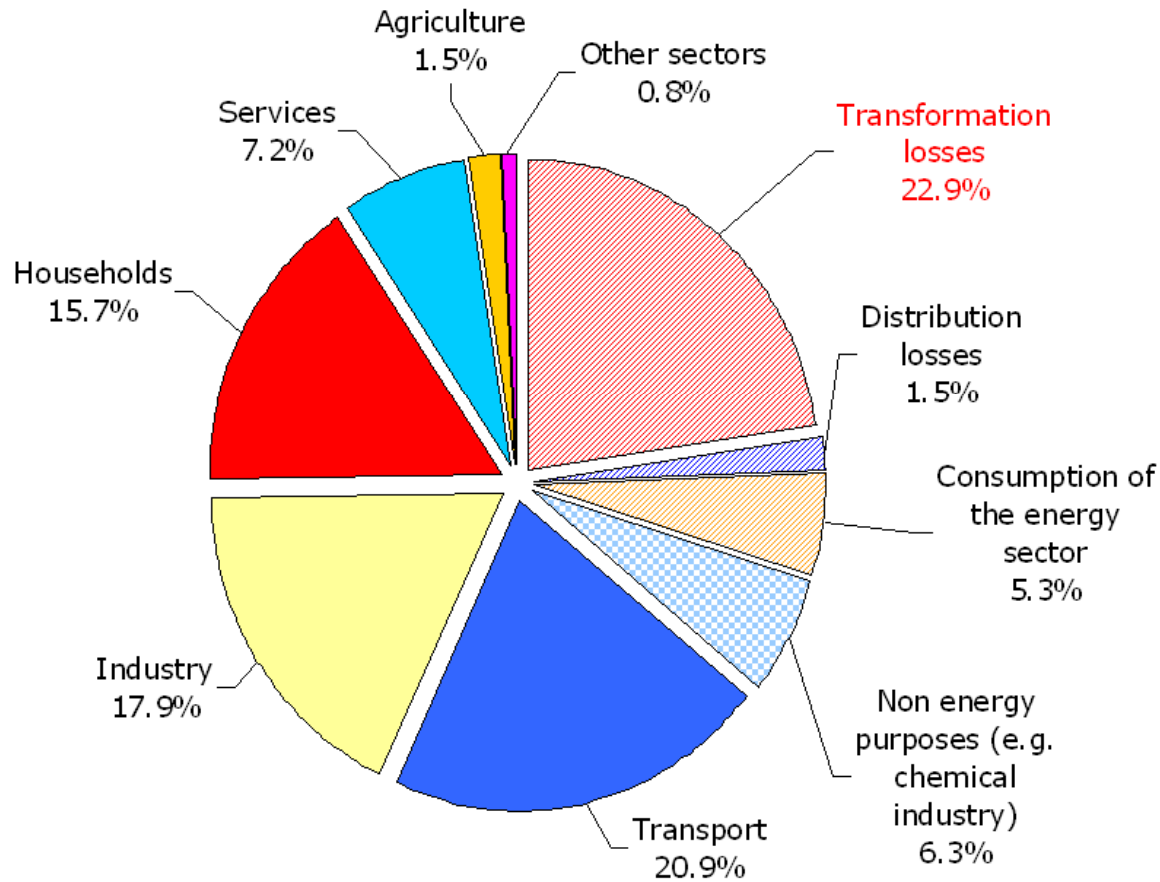




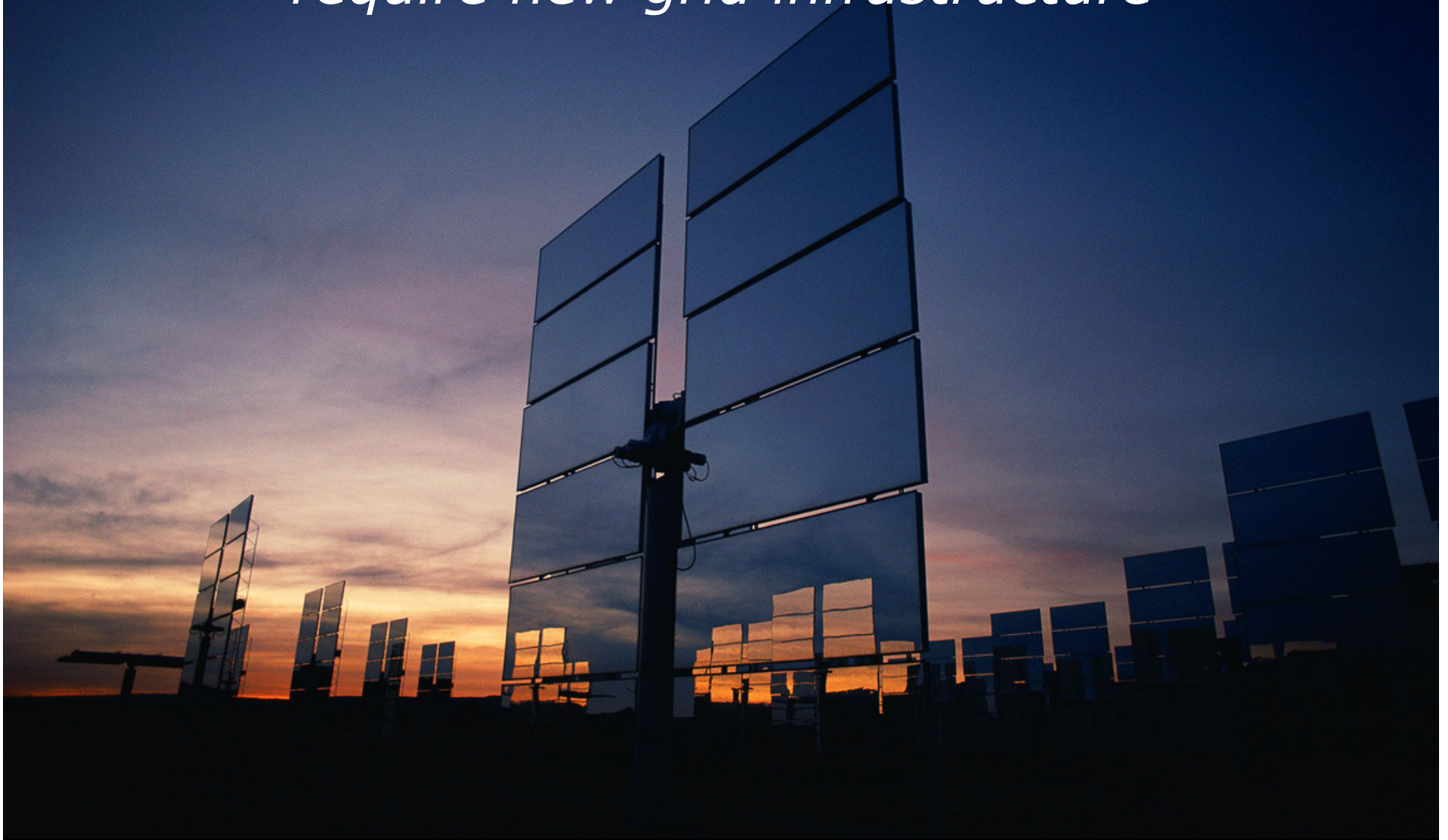
Barcelona has led the way in integrating solar energy into urban development



Final consumption by sector and energy losses (% of primary energy consumption)



*Accessing distant renewable resources will
require new grid infrastructure*



“Climate change ... is the greatest and widest-ranging market failure ever seen”

Lord Stern, *The Economics of Climate Change*

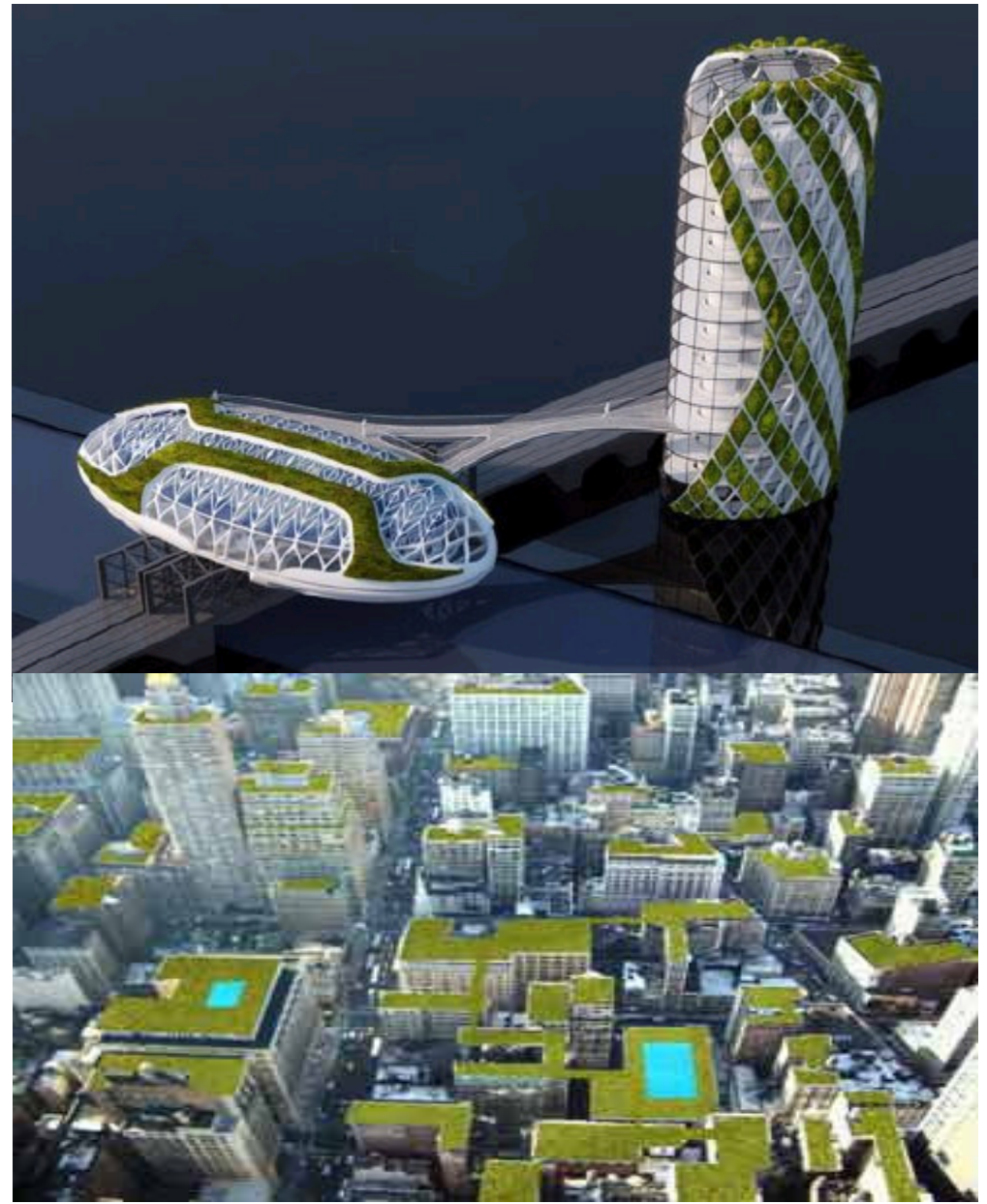
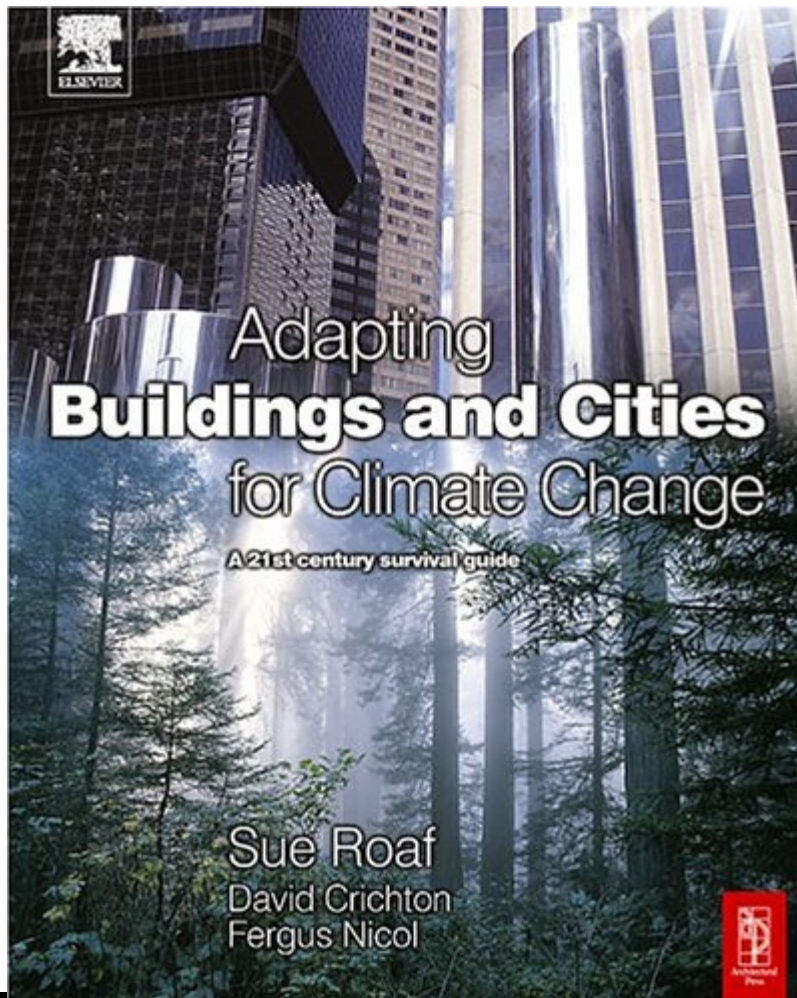


Key elements of genuinely green economies

- **Preserving the assets that sustain our livelihoods and living off the revenues they generate**
- **Governance structures that ensure transparency and free flows of information**
- **Targeting taxes and subsidies in ways that promote sustainable resource use and maximise human endeavour and creativity**
- **Internalising all social and environmental costs and benefits within market prices**
- **Ownership regimes that promote sustainable resource management and active participation**



Adapting urban space – tomorrow's home of 82 % of Europeans



New forms of vertical farming



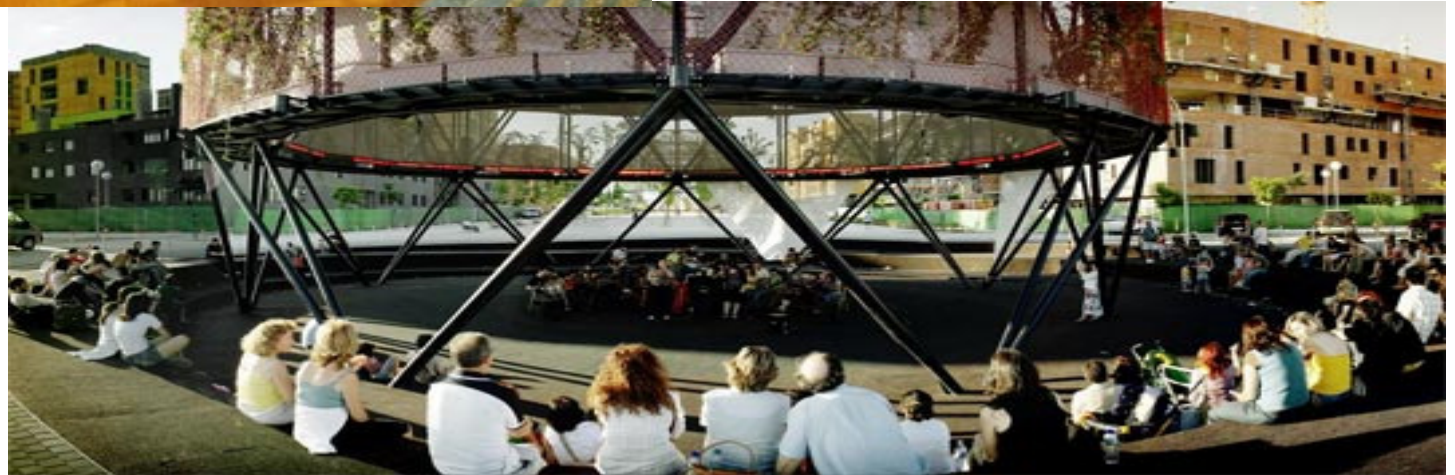
...a fast cropping concept!





***Cooling down
with air trees***

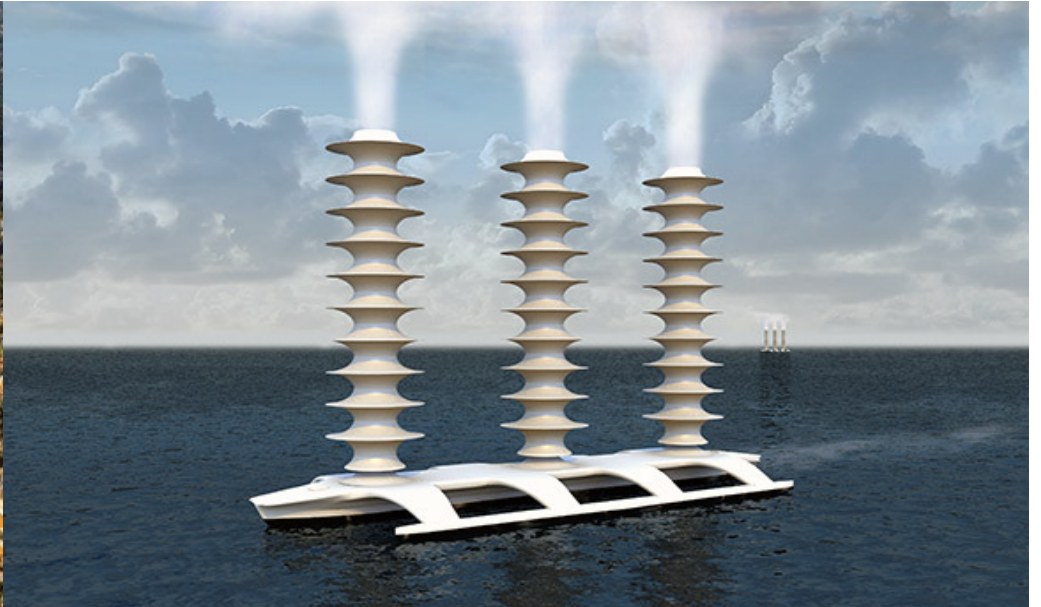
Viva Madrid!











Thank you for your attention!

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