Our mandate

The European Environment Agency is the EU body dedicated to providing sound, independent information on the environment

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

Urban design, architecture and environmental sustainability – In search of an effective integration

No challenges stand in isolation

ACE General Assembly
Brussels, 21 November 2008

Ronan Uhel

Head, Spatial Analysis

European Environment Agency

…excerpts from Commission's press release on the ***recast of the Energy Performance of Buildings Directive (2002/91/EC)***

- The energy consumption of buildings varies enormously:
  - new buildings can need less than 3 to 5 l of heating oil or equivalent per m^2 of floor area and year
  - the existing buildings stock consumes, on average, about 25 l per m^2, some buildings even up to 60 l

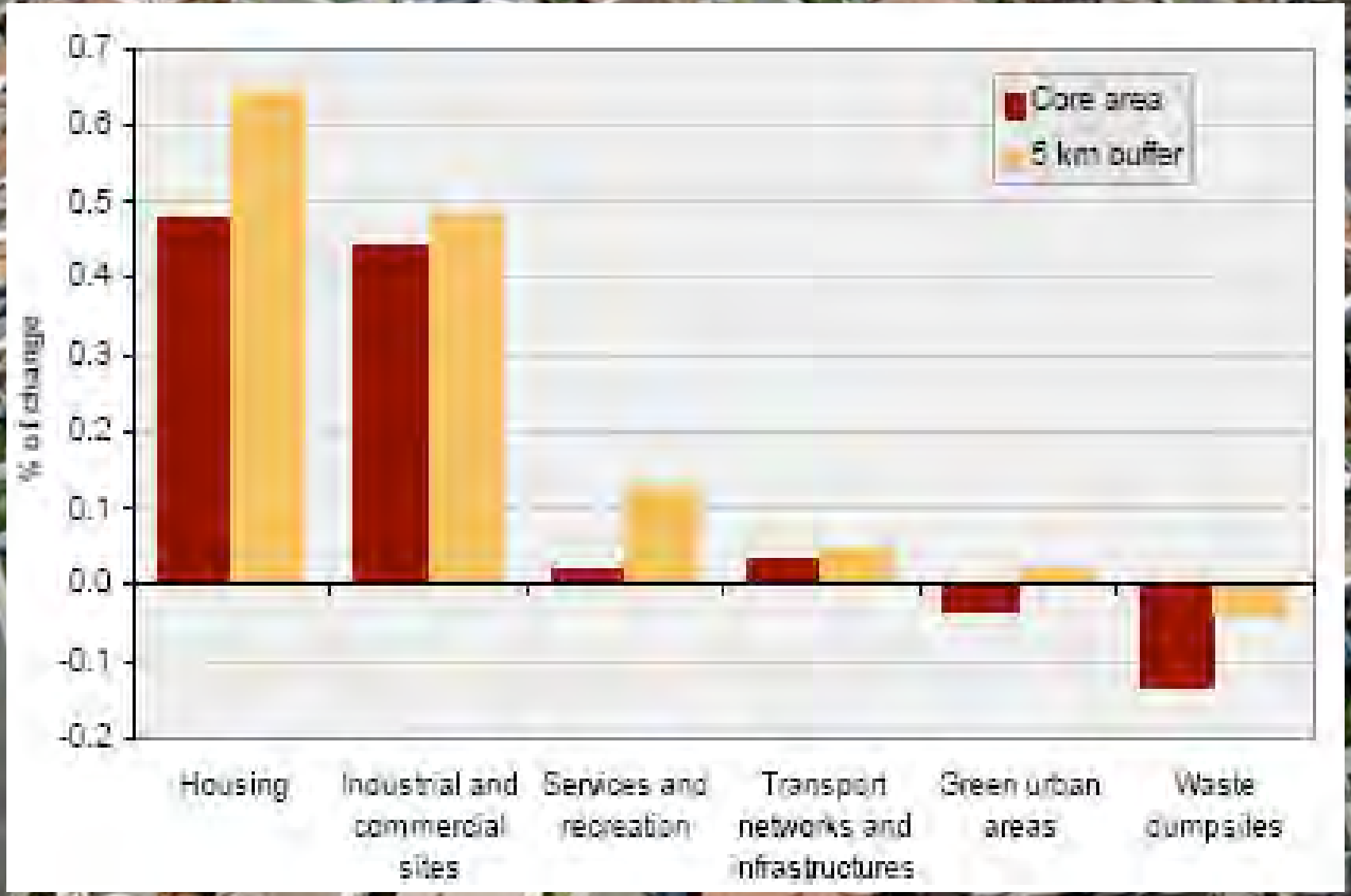
- Recast directive foresees:
  - 5-6% less energy will be used in EU in 2020 (eq. total current consumption of Belgium and Romania
  - about 5% less CO^2 emissions will be emitted in the whole EU in 2020

→ How / Who to monitor progress?

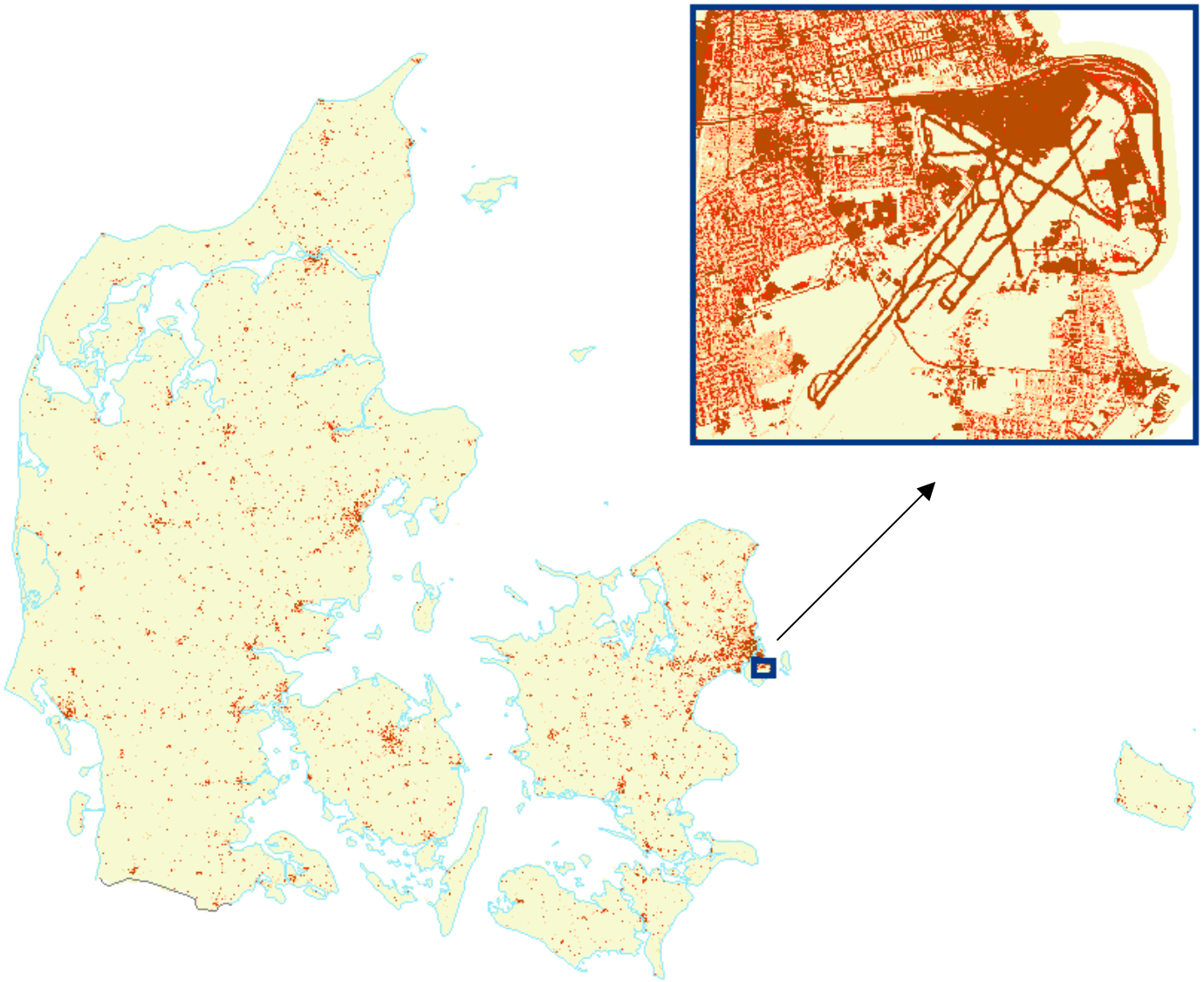
...there is much more to energy efficiency... urbanisation...built environment...consumption

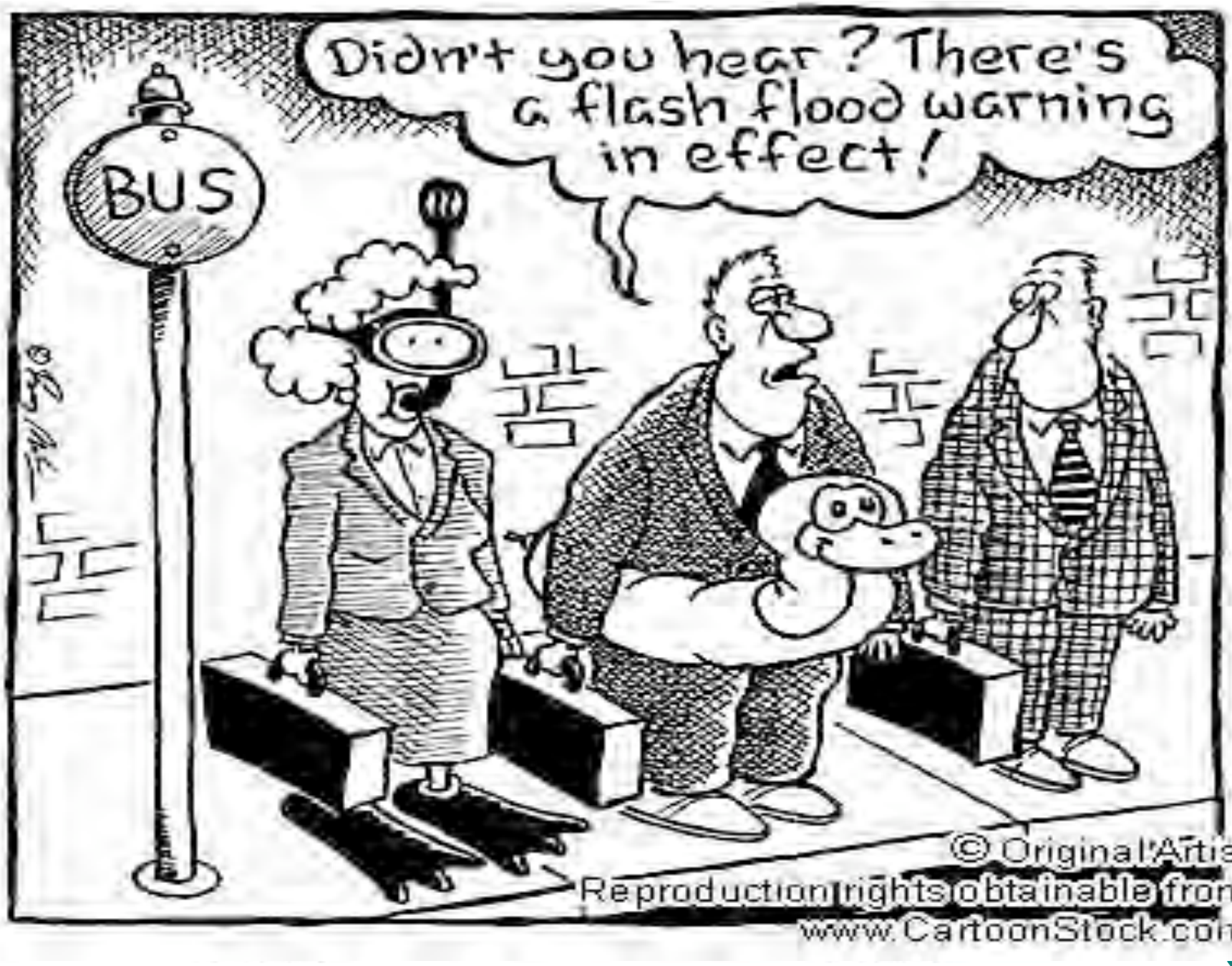
- **Since mid-50s, European cities expanded by 78 %, whereas population grew by 33 %**
- **The amount of space consumed per person in the cities of Europe has more than doubled over the past 50 years**
- **Over the past 20 years, the extent of built-up areas in many western and eastern European countries has increased by 20 %, while the population has increased by only 6 %**
- **Over past decade 5 times area of Great London given up to just the sprawling area of European cities**
- **During past 20 years, 4 times more new cars that new babies in cities**
- **The number of kilometres travelled in urban areas by road transport is predicted to rise up to 40 % by 2030 compared to 1995**

Top-drivers of urban land development...



Intensive uptake and sealing of soil surface




Didn't you hear? There's a flash flood warning in effect!
BUS
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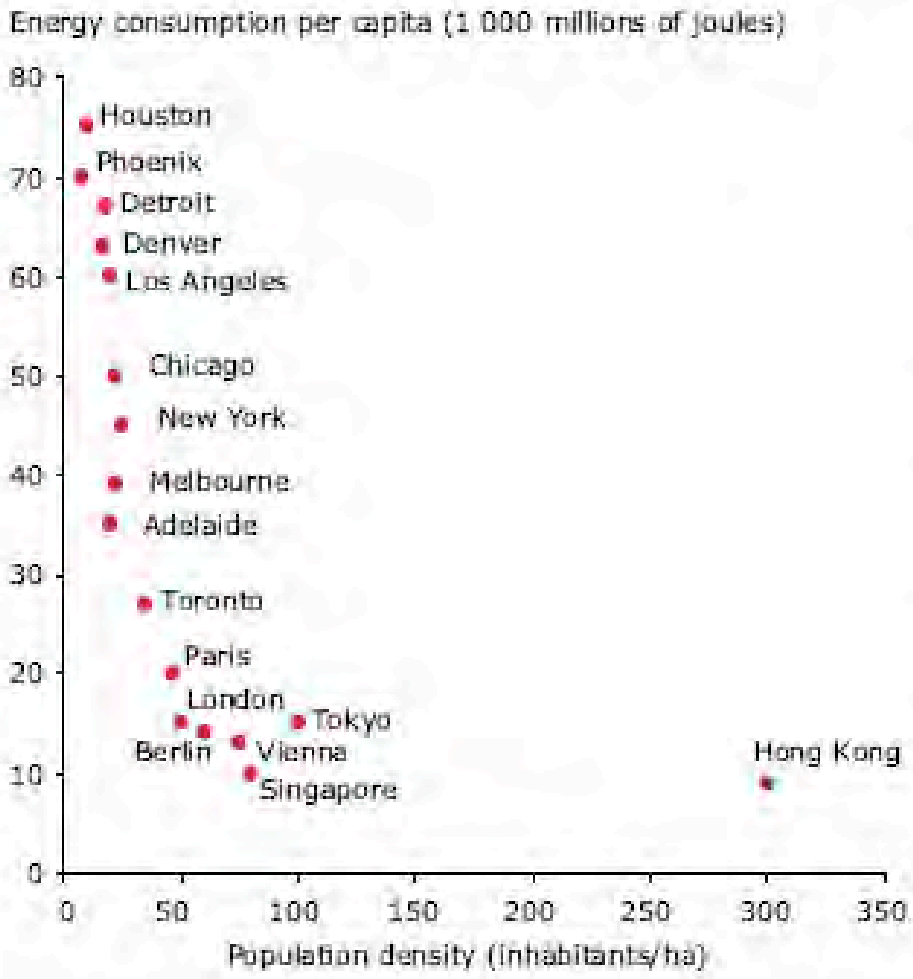
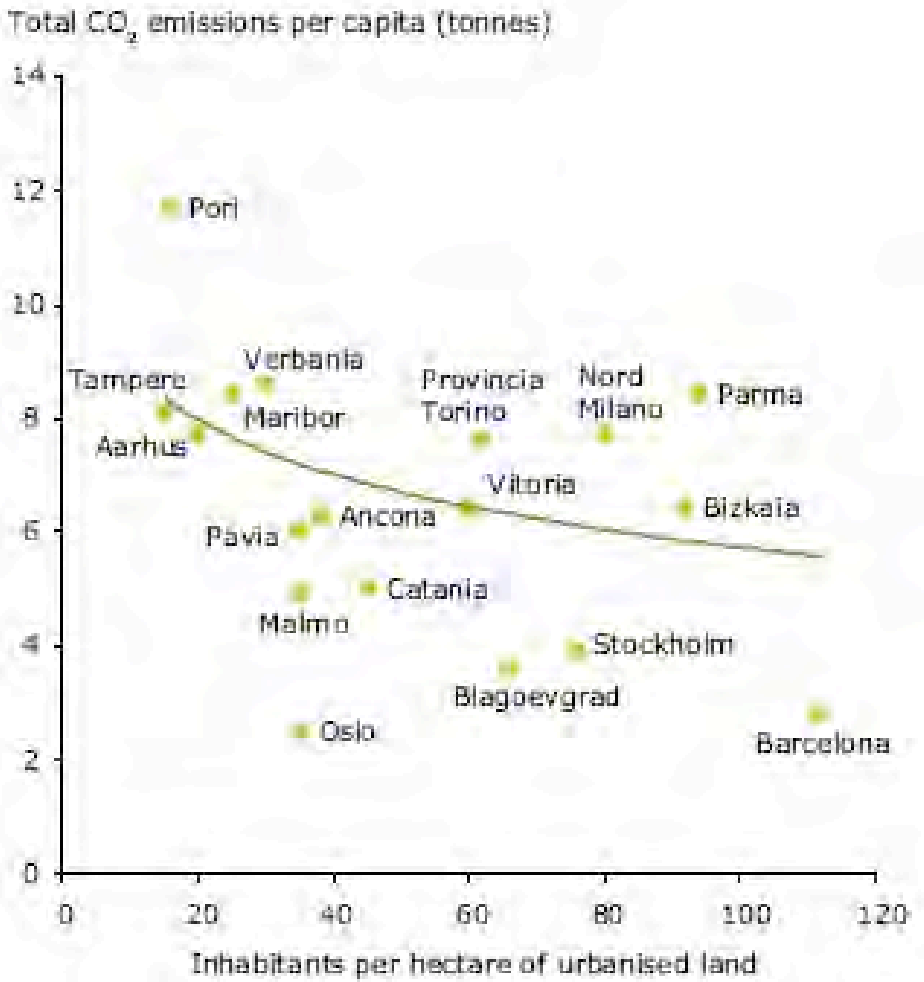
… urban sprawl contributes to climate change issues, both CO^2 and impacts!





European cities: ~70 % CO^2 emissions

…and health-related matters… quality of life….

- Number of premature deaths due to high pollution levels un urban areas: 340 000
- Up to 6O % of urban population exposed to high ground-level ozone in 2003 (20-25 % average over years)
- 160 million people exposed to 55dB(A) level –significant annoyance
- 80 million with cardiovascular effects –continous traffic noise above 65 dB


URBAN
GROWTH
IS
Emotions!!!!!

Useful to factor in …

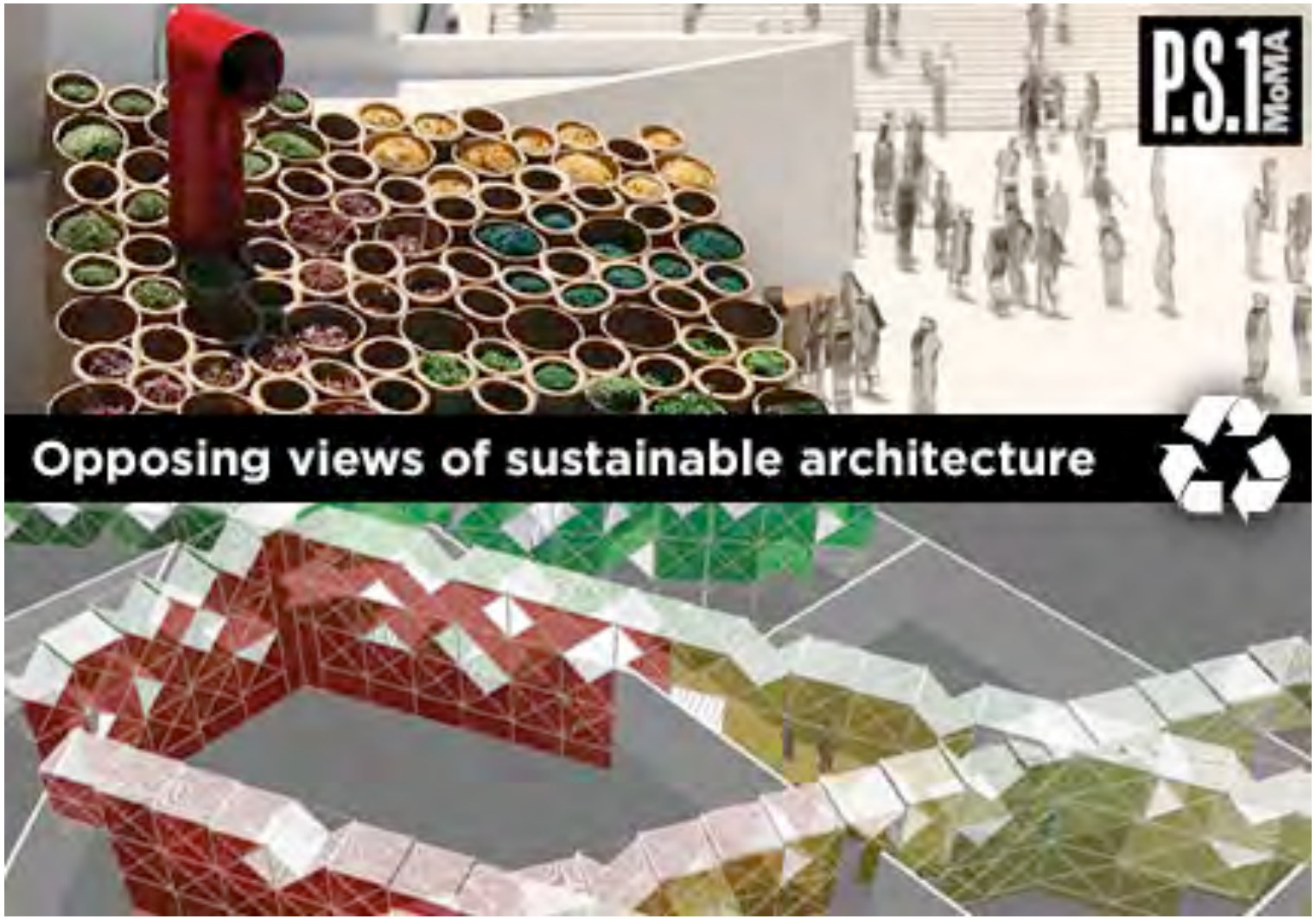
1. **Housing and mobility** are the product/service categories which cause highest lifecycle environmental pressures:
   - with food, 70-80% of life-cycle environmental impacts
   - 2/3 of major environmental pressures (use of resources, greenhouse gases)

2. Consumption **growth** outweighs **efficiency** gains, partly because of the **rebound effects**

3. Pathways: **Eco-design** is necessary – but not sufficient –**sufficiency** also generates rebound effects

4. Practices: missing links in the chain – design not inclusive

...also streamlined responses from professionals



ACE Declaration on Architecture and Sustainability:

- Change practices
- Sustainable design
- Foster environment competence
- Instituional leadership
- Interdisciplinary approaches
- Broaden service & outreach

ARCHITECTS' COUNCIL OF EUROPE
CONSEIL DES ARCHITECTES D'EUROPE

Designing for the Future:
The Market and Quality of Life

10th April 2008

Flagey – Brussels, Belgium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Drivers of urban sprawl

Macro-economic factors
- Economic growth
- Globalisation
- European integration

Micro-economic factors
- Rising living standards
- Price of land
- Availability of cheap agricultural land
- Competition between municipalities

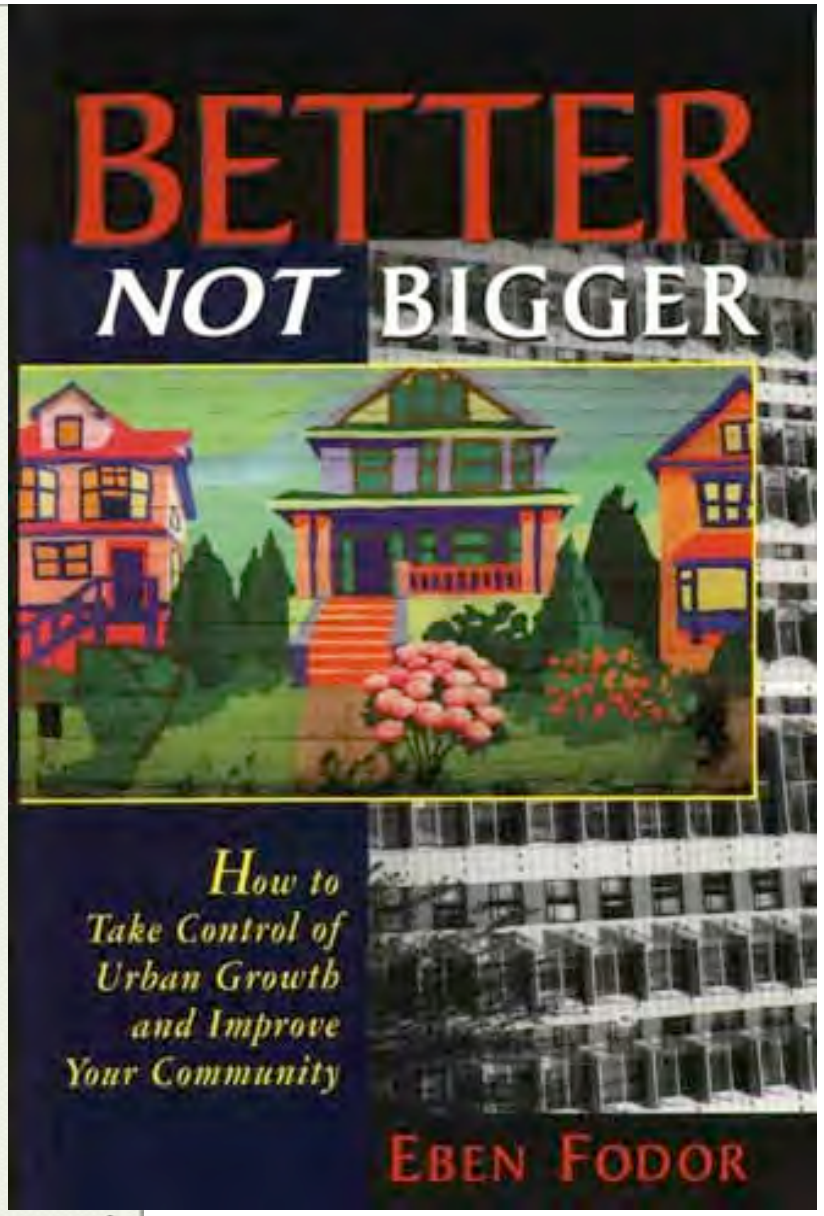
Demographic factors
- Population growth
- Increase in household formation

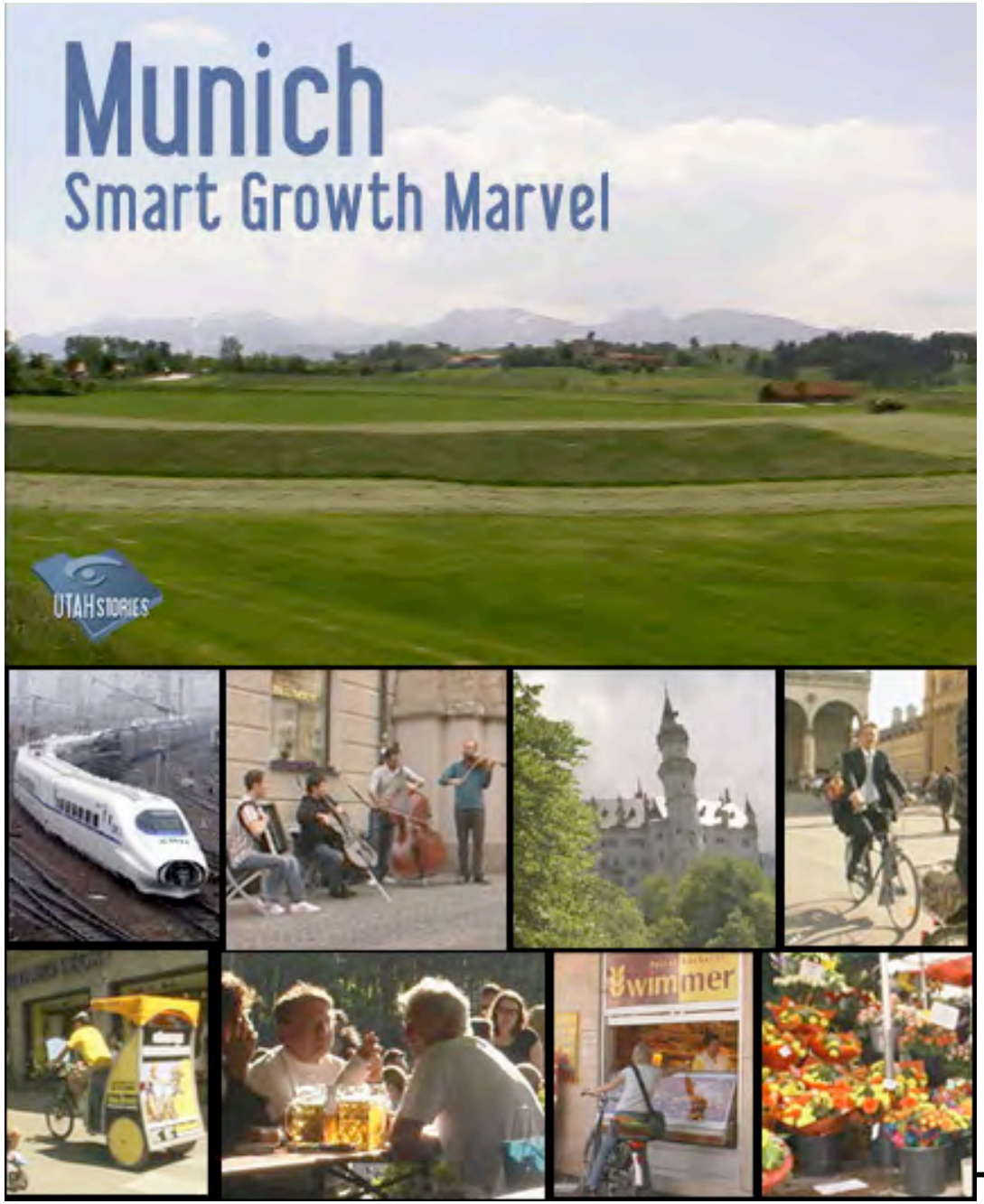
Housing preferences
- More space per person
- Housing preferences

Inner city problems
- Poor air quality
- Noise
- Small apartments
- Unsafe environments
- Social problems
- Lack of green open space
- Poor quality of schools

Transportation
- Private car ownership
- Availability of roads
- Low cost of fuel
- Poor public transport

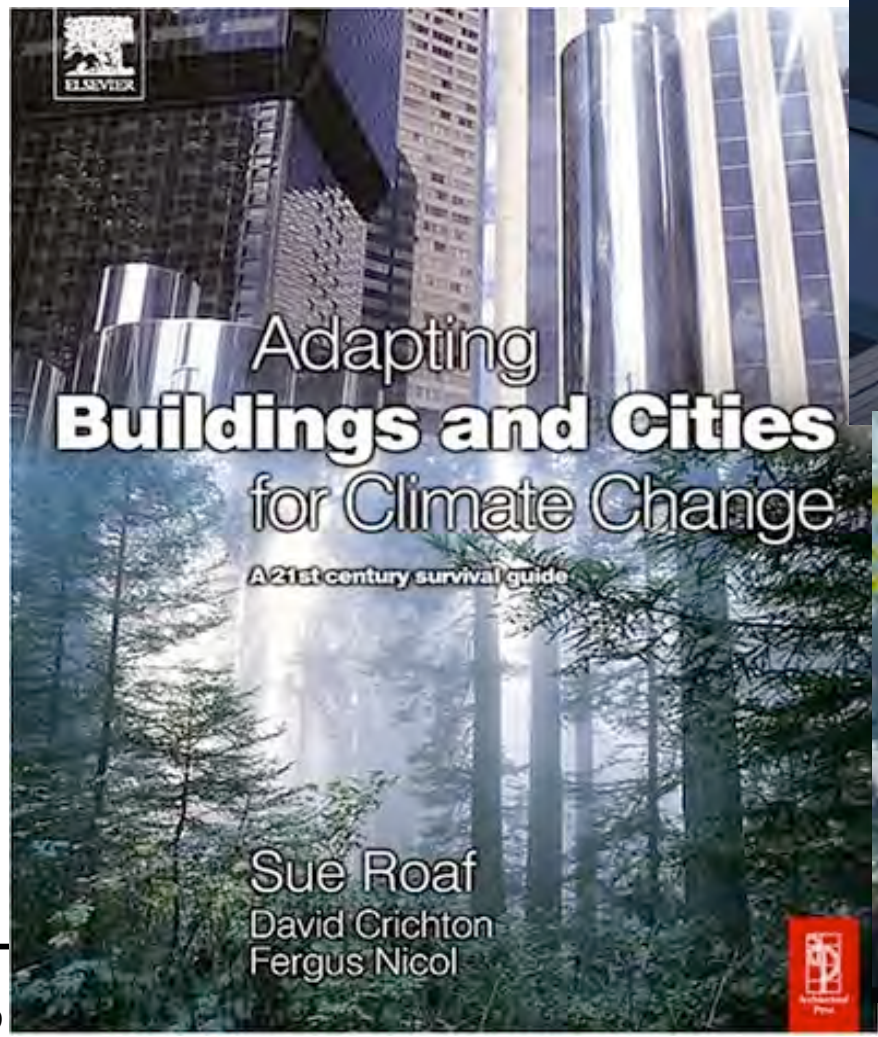
Regulatory frameworks
- Weak land use planning
- Poor enforcement of existing plans
- Lack of horizontal and vertical coordination and collaboration





Why different, how do they manage?

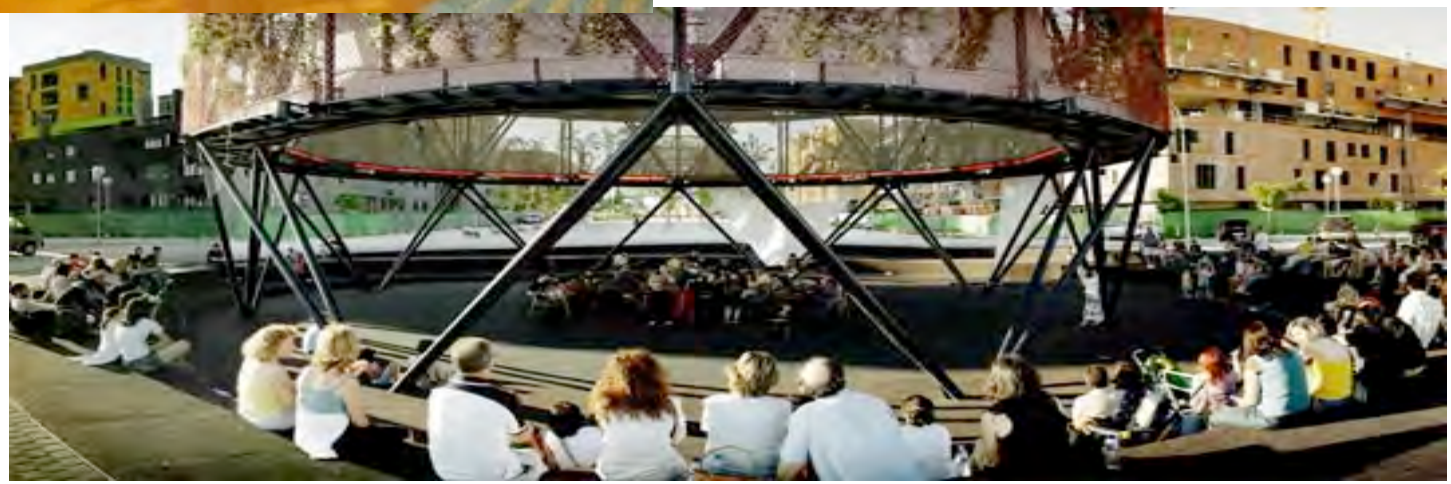
Adapting urban spac – tomorrow's home of 82 % of European



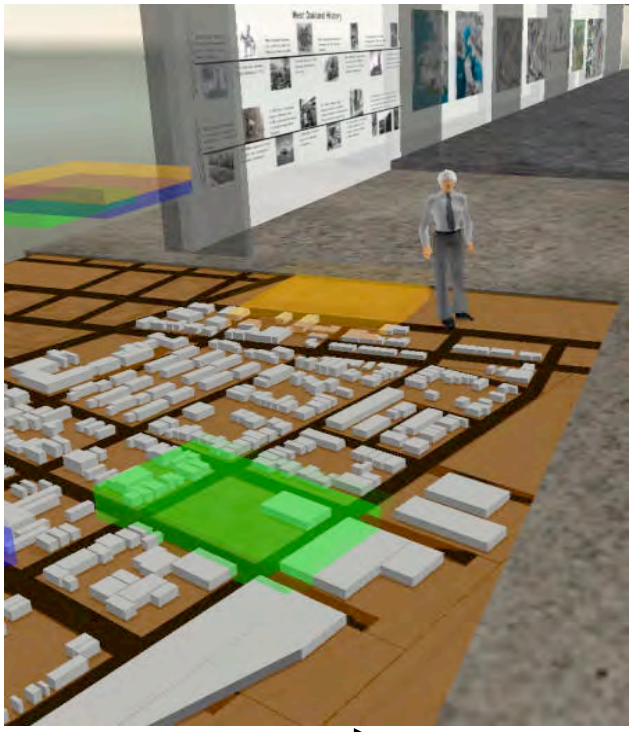
...some fast cropping concepts!

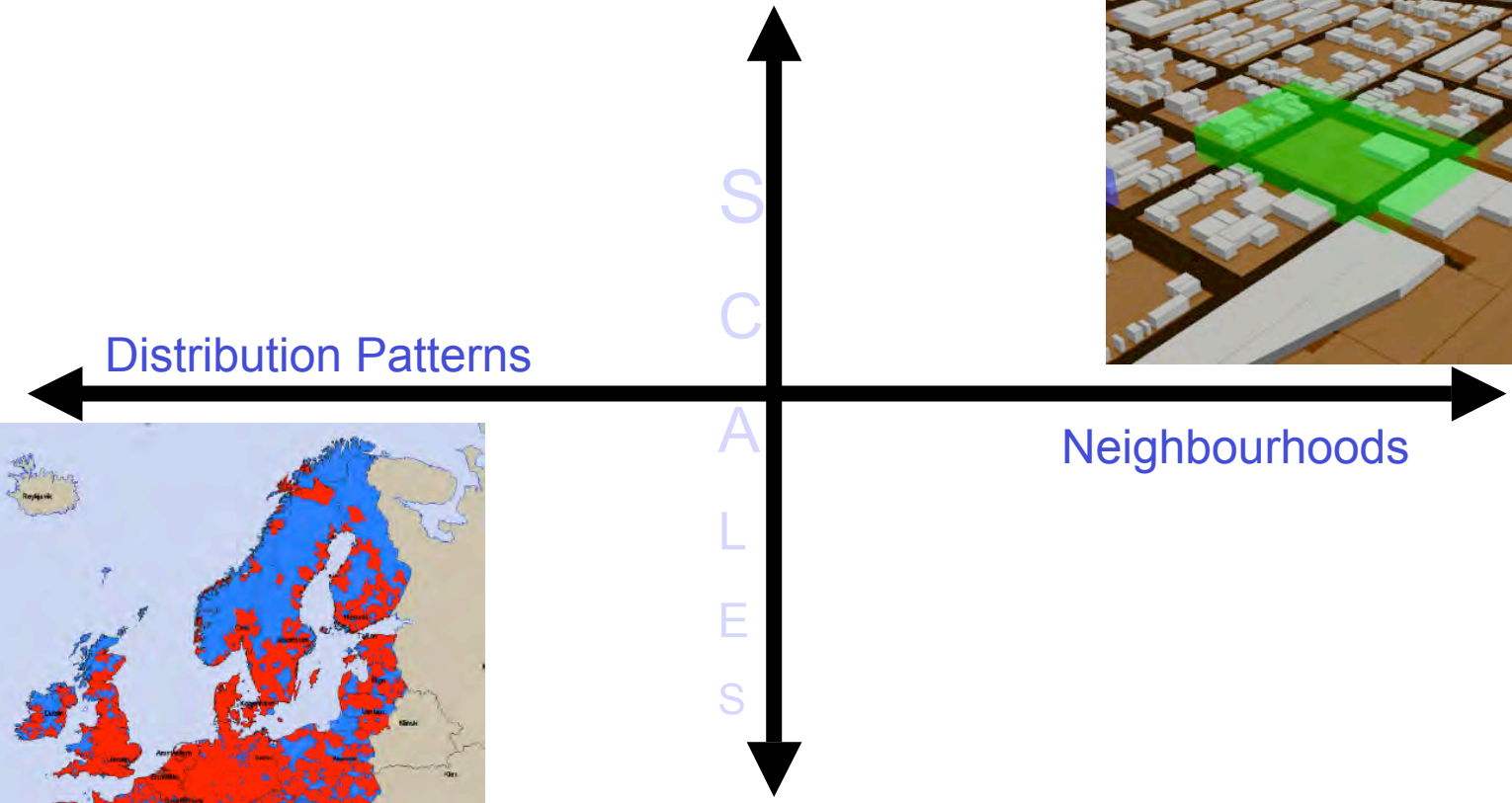
Cool down…air tree concept!

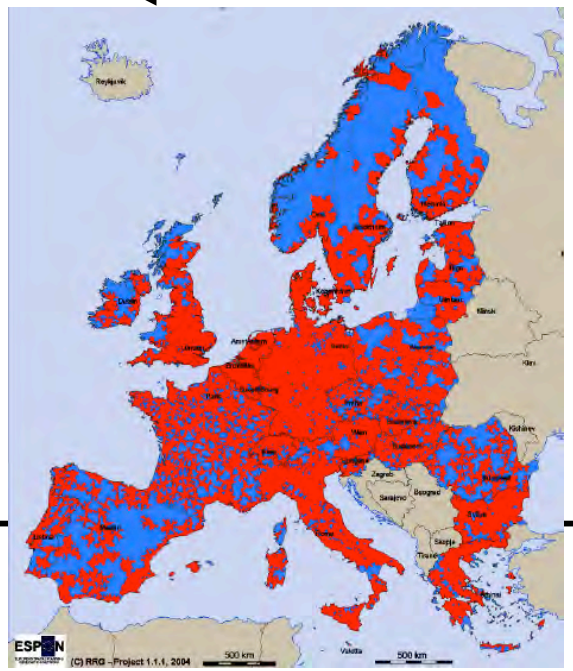
Viva Madrid



Forming the understanding and information base







As a way of possible work cooperation…:

- Indicators
- Assessing the larger picture
- Analysing best practices –success factors

Thank you for your attention!

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