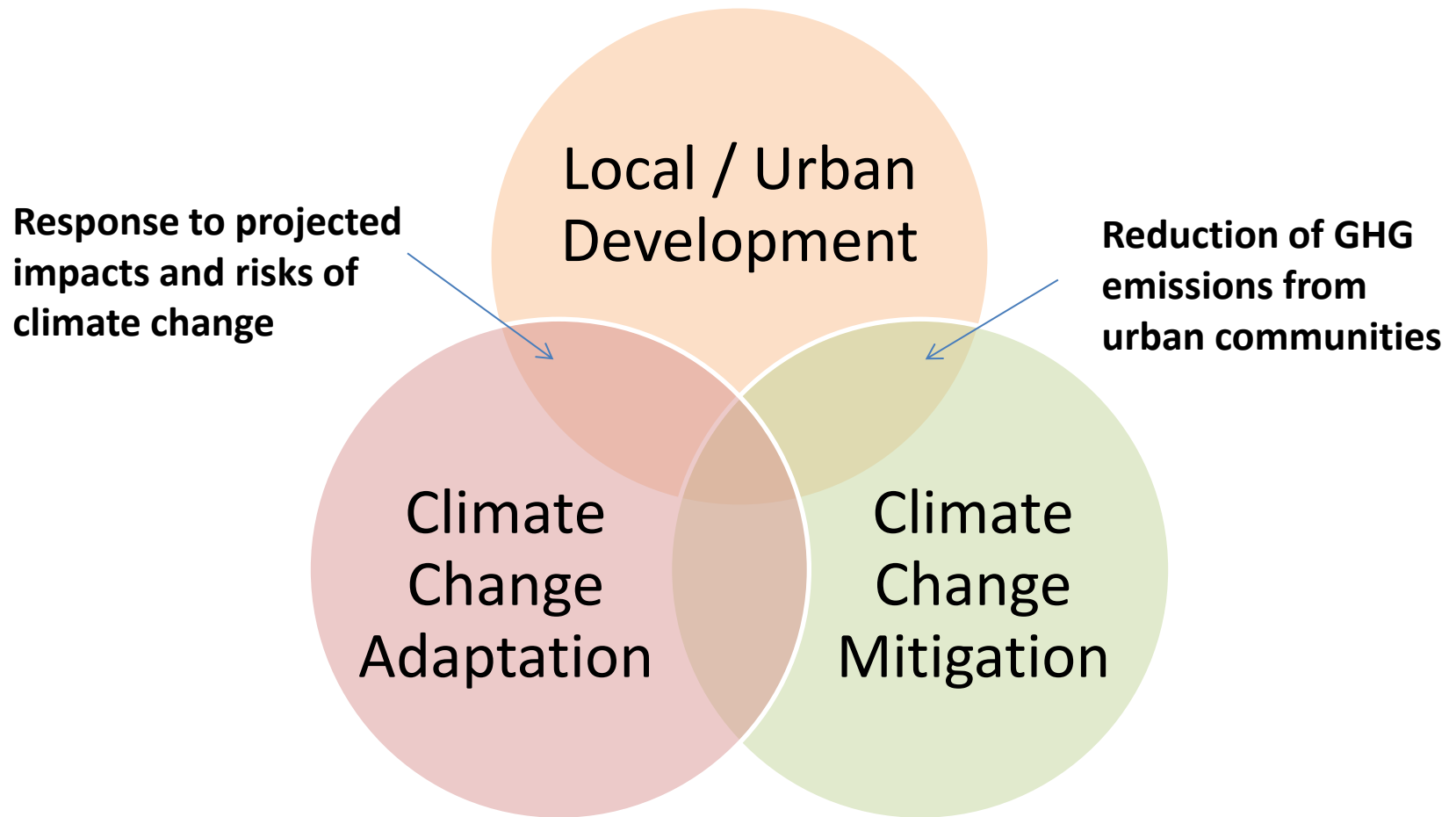# Serbia Climate Smart Urban Development Initiative

Vesa Rutanen
Project Development Team Leader
GFA South East Europe

Serbia's climate talks - on the way to Paris
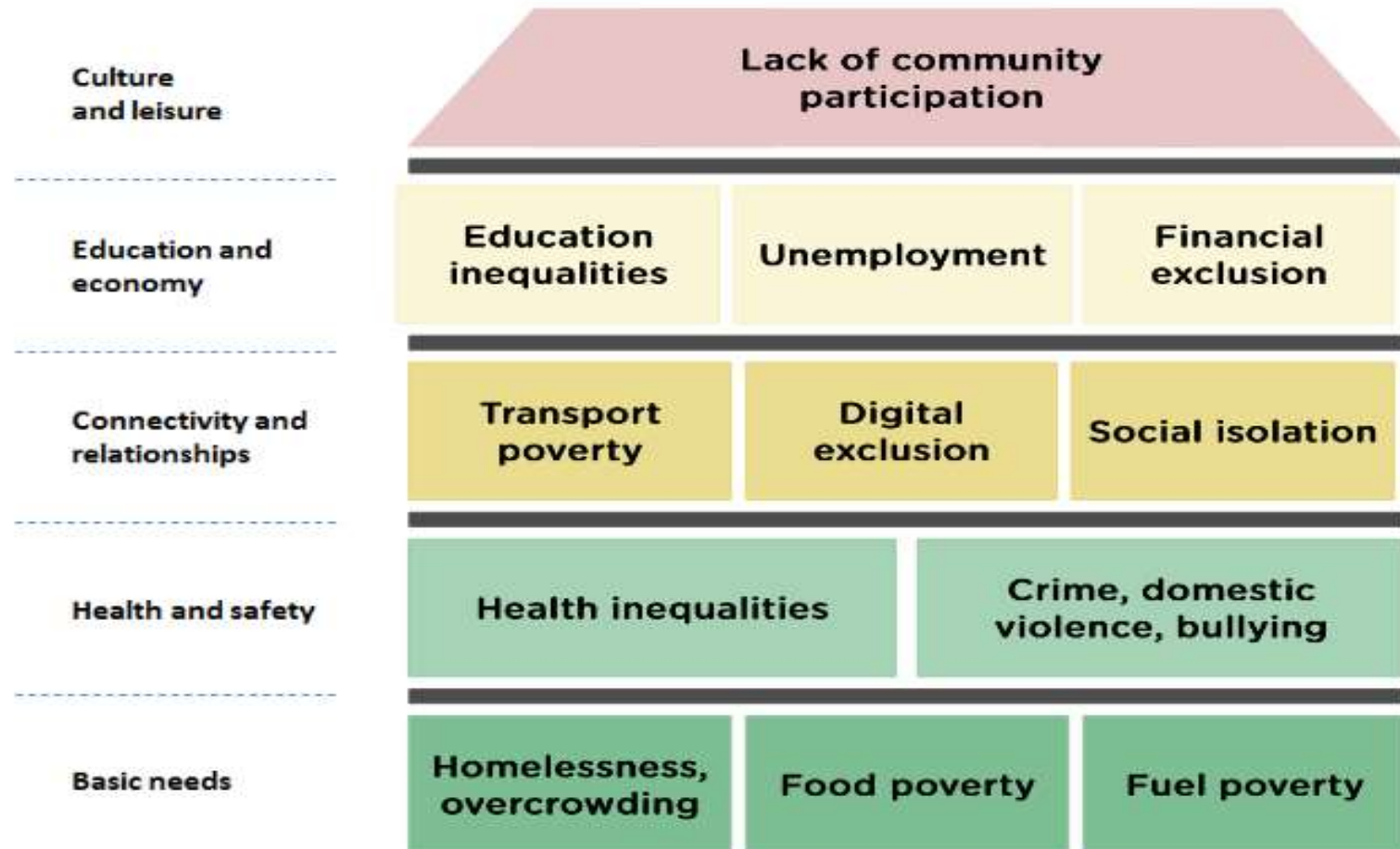
Belgrade, October 5-6, 2015

What is Climate Smart Urban Development (CSUD) ?

Local / Urban Development

Response to projected impacts and risks of climate change

Reduction of GHG emissions from urban communities

Climate Change Adaptation

Climate Change Mitigation
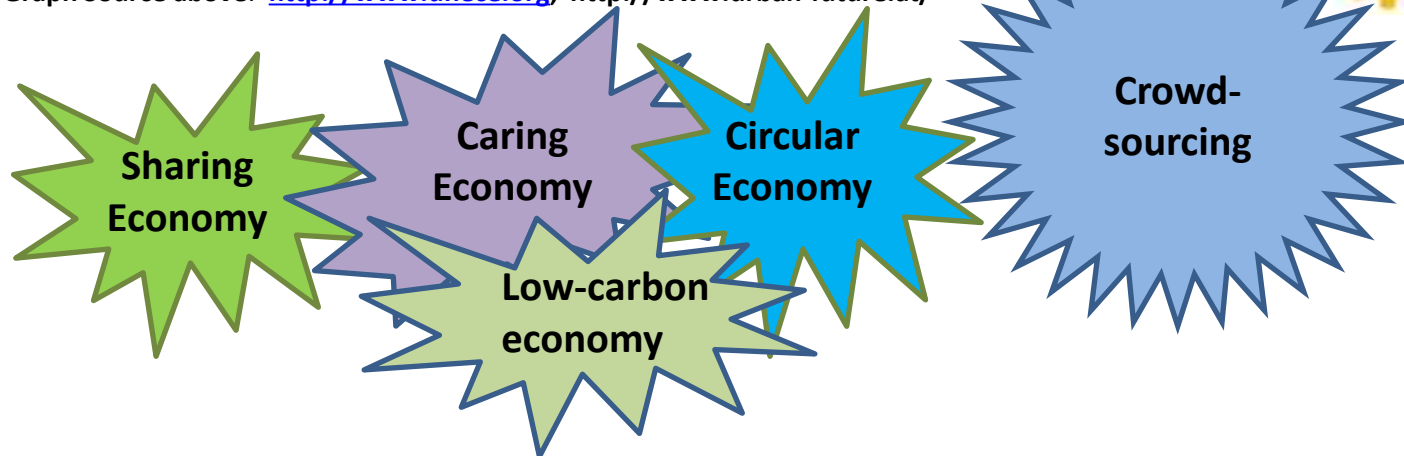
Common CSUD challenges

...including social challenges

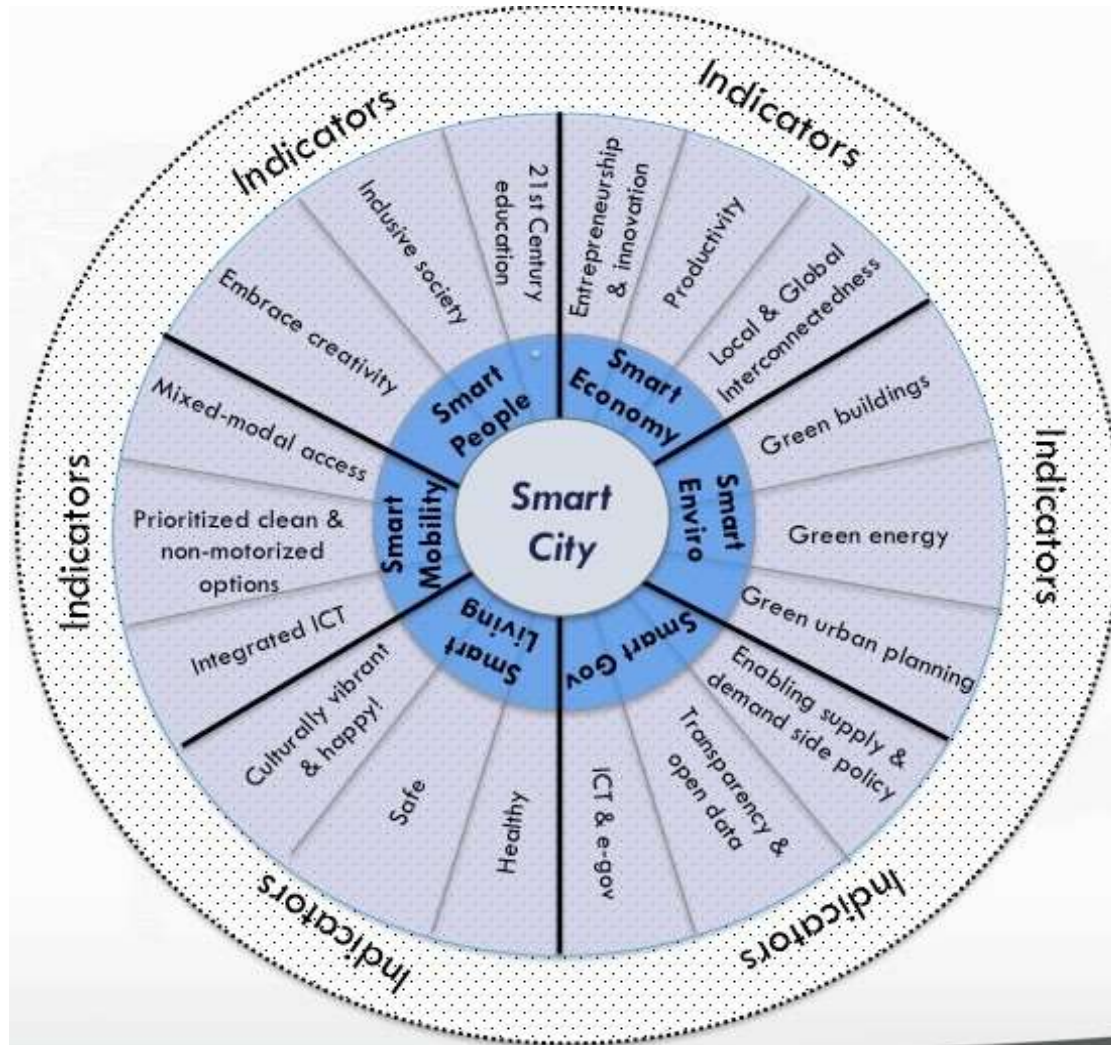Source: https://nestainvestments.org.uk/wp-content/uploads/2015/01/What-do-we-mean-by-Sustainable-Communties.pdf

Sample of Smart City "Hits"

Smart Mobility

Smart Energy

Smart Communications

Smart Living & City Planning

RESOURCE EFFICIENCY
Using less, living better

Graph Source above: http://www.unece.org, http://www.urban-future.at/

Sharing Economy

Caring Economy

Low-carbon economy

Circular Economy

Crowd-sourcing

Example of Smart City Ranking Indicators

Source: http://www.fastcompany.com

Larger European Cities Commonly Ranked High among "Smart Cities"

Copenhagen
- Target to become carbon neutral by 2025
- All new buildings carbon neutral by 2020
- 40% of all commuting by bike
- Open data, smart mobility, smart grids, smart buildlings, smart lighting
- Green urban planning

Amsterdam
- Open data, new mobility solutions
- Smart grids, home energy storages
- Over 60 % of all city travel by cycling or walking (in fact A'dam being one of the few cities having more problems with NMT than car congestion)

Barcelona
- Cutting edge ICT use
- Pioneer of solar thermal ordinances
- Smart public transport (incl. complete redesign of the bus network)
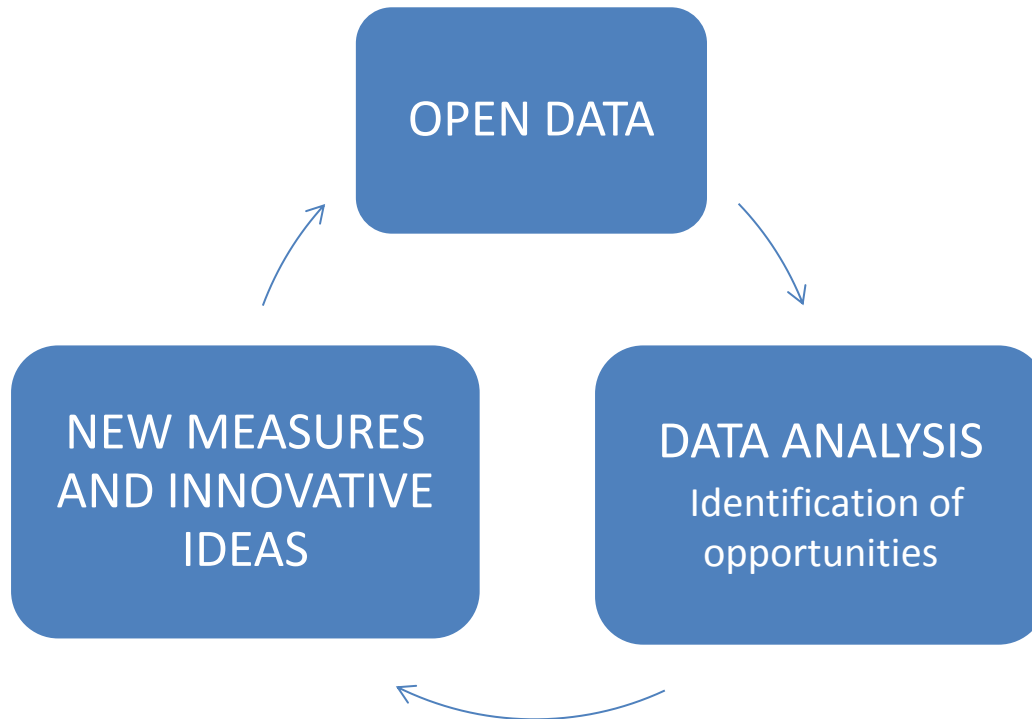- Host of several innovation events
- Telecare Service

Vienna
- "Smart" public transport, energy, water supply and waste management services
- Ecological social housing programs
- Citizen's solar power plants

Developing and implementing CSUD measures and sharing the results

OPEN DATA

DATA ANALYSIS
Identification of opportunities

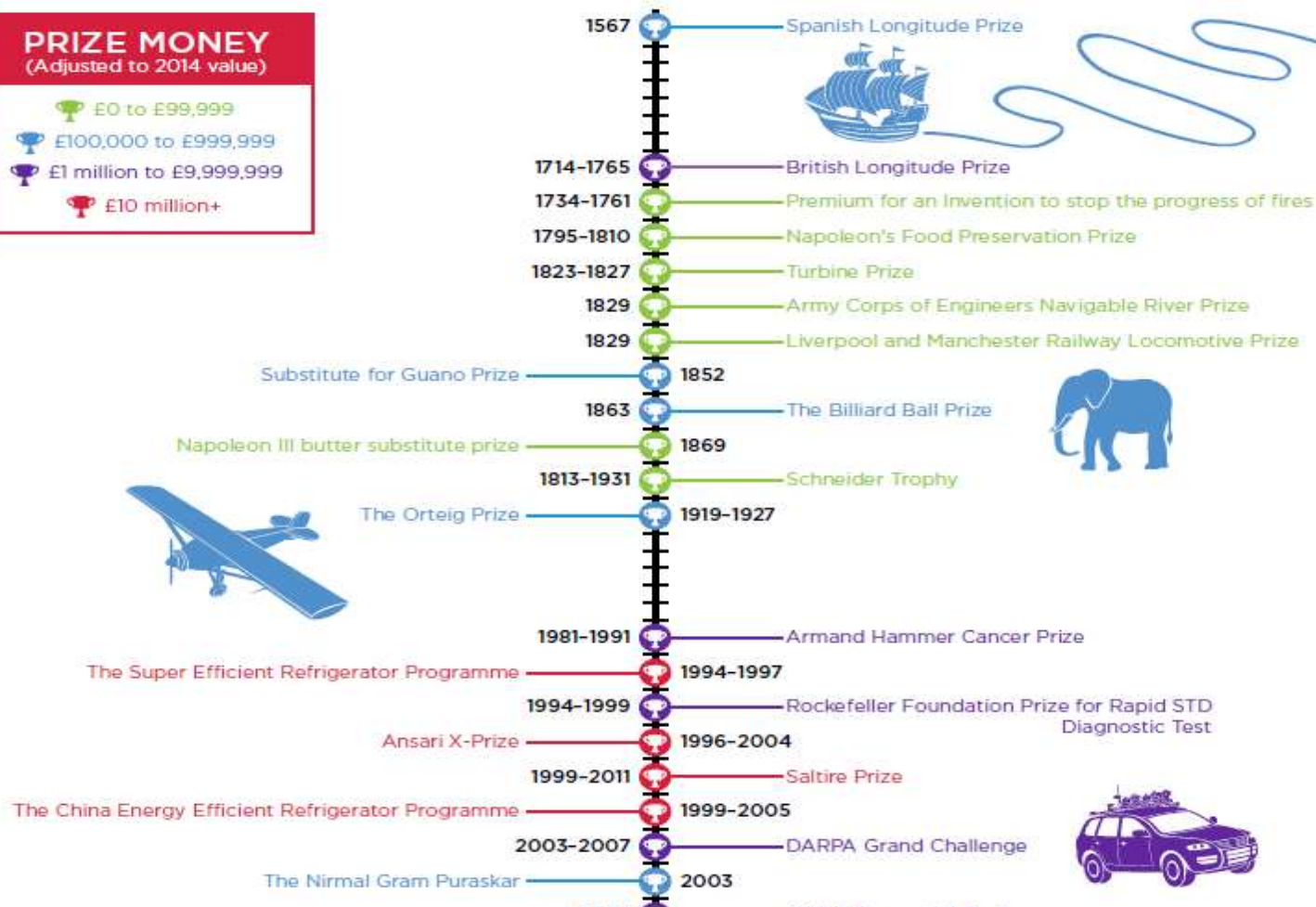NEW MEASURES AND INNOVATIVE IDEAS

Some key questions:
- **Who is / can / should be doing this ?**
- **Are the necessary tools, resources and other framework conditions (such as enabling policies) in place to facilitate the process ?**

Basic idea behind the challenge prizes

- Supporting results, not activities

- Crowdsourcing (leveraging ideas and possible solutions from much larger group of individuals or entities than may be possible through usual contracting and procurement modalities)

- "Ground level" community mobilisation by raising awareness and providing incentives also for individuals and small community groups to propose solutions on critical development issues

- Identifying new solutions that otherwise may have been neglected

- Eventually encouraging new partnerships and collaboration

- Accelerating progress towards ambitious goals by a competative environment

Close to 500 years' history of challenge prizes as a method for finding solutions to pending problems (graph source: www.nesta.org.uk)

Examples of Challenge Prizes

Live: Inclusive Technology Prize

Live: Longitude Prize 2014

Live: Open Data Challenge Series

Closed: Dynamic Demand Challenge Prize

BIG green challenge

Closed: UNDP Renewable Energy Challenge

Closed: Waste Reduction Challenge Prize

Closed: Ageing Well Challenge Prize

NESTA Big Green Challenge

- a £1m challenge prize designed to encourage and support community-led responses to climate change.

- proposals received from 355 groups

- 100 most promising groups received support from the Big Green Challenge team to develop their ideas into detailed plans

- Shortlisting of ten finalists, who put their ideas into practice to compete for the £1m prize . Results demonstrating 10-46 % reduction in GHG emissions within the participating community

- Three winners received £ 300,000 each + one "runner-up" receiving £ 100,000.
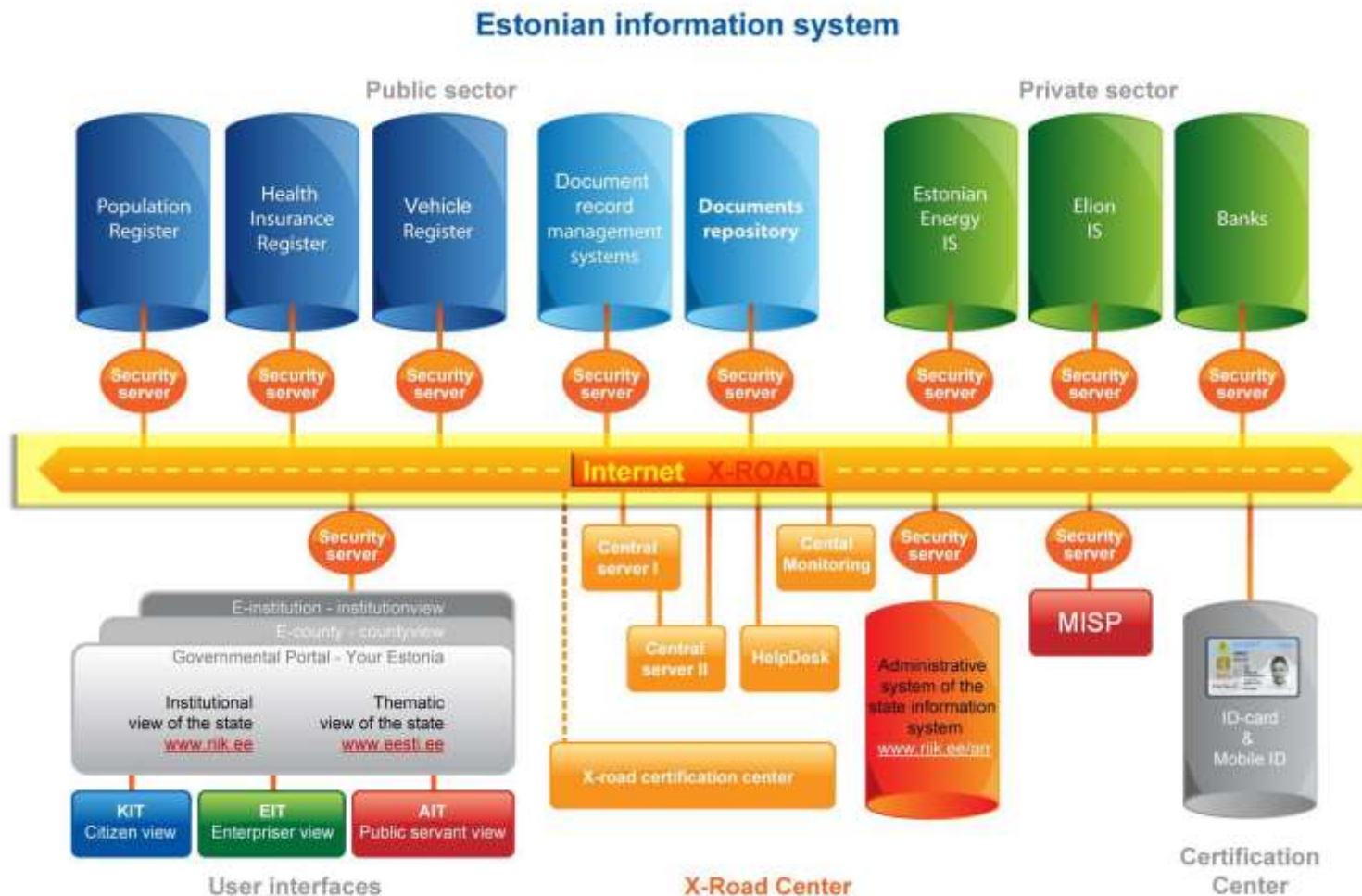
NESTA Waste Reduction Challenge

- a £50,000 prize for an innovation that achieved the biggest measureable reduction in waste

- six finalists from a shortlist of 20 ideas. Each finalist received up to £10,000 funding along with a package of non-financial support to set up and test their projects.

Issues with Open Data

- How to get and facilitate open access to the data ?

- How to improve the coverage and efficiency of data collection and management, including a question on the existing institutional barriers ?

- How to secure/improve the accuracy, credibility and transparency of the data ?

- How to screen out the desired data and information from large data sets ?

- How to visualize the data to make it more understandable and interesting to the targeted stakeholders ?

- How to encourage and facilitate action towards the desired longer term goals by using the data collected ?

Estonian X-road

Source: https://e-estonia.com/component/x-road/

Experiences with the Estonian X-road up to date

- In 2013 over **287 million** queries done over X-road.
- Over **170** databases offer their services over X-Road in Estonia.
- Over **2,000** services are used over X-Road in Estonia.
- Over **900** organisations use X-Road <u>daily</u> in Estonia.
- More than **50%** of the inhabitants of Estonia use X-Road through the information portal eesti.ee.

Population of Estonia: Around 1.3 million

- Borders opened for **e-residency** at the end of 2014 allowing also non-Estonian citizens, among others, to:
  - > Digitally sign documents and verify their authenticity
  - > Establish an Estonian company online within a day
  - > Administer the company from anywhere in the world.
  - > Conduct e-banking and remote money transfers.
  - > Declare Estonian taxes online

CSUD Baseline in Serbia

- Many Serbian municipalities facing substantial challenges in trying to secure their financial sustainability and to satisfy the demand for basic social and other municipal services such as reliable energy and water supply, public transport and waste management.

- Climate change mitigation related issues in this context typically considered to be of secondary importance

- Need to identify win-win opportunities addressing the primary concerns of municipalities, while also producing tangible GHG reduction benefits
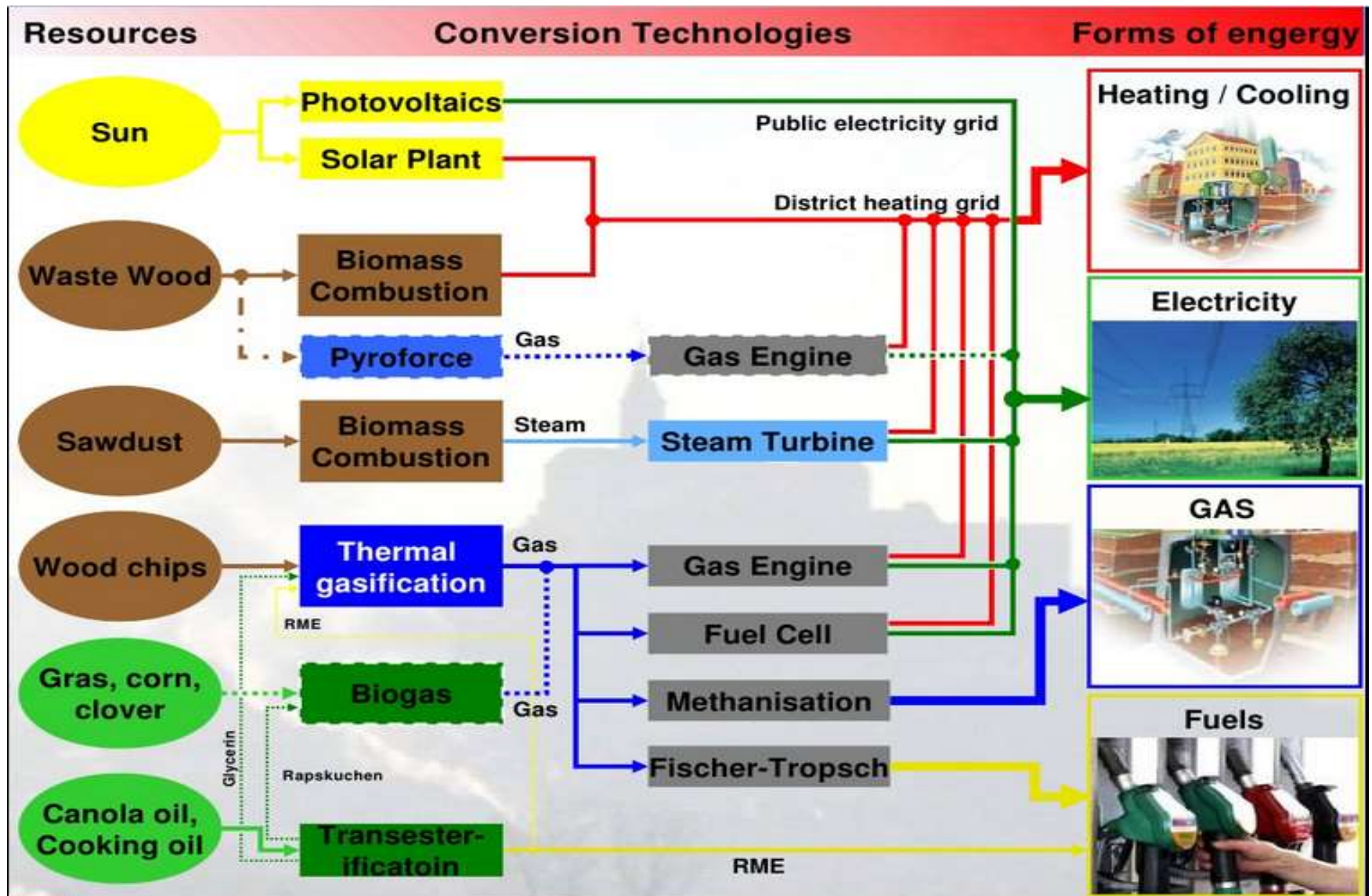
The Güssing Case

Situation at the beginning of 1990's

- no industry
- high rate of unemployment
- 70% commuters
- high migration rate
- small structured agricultural fields
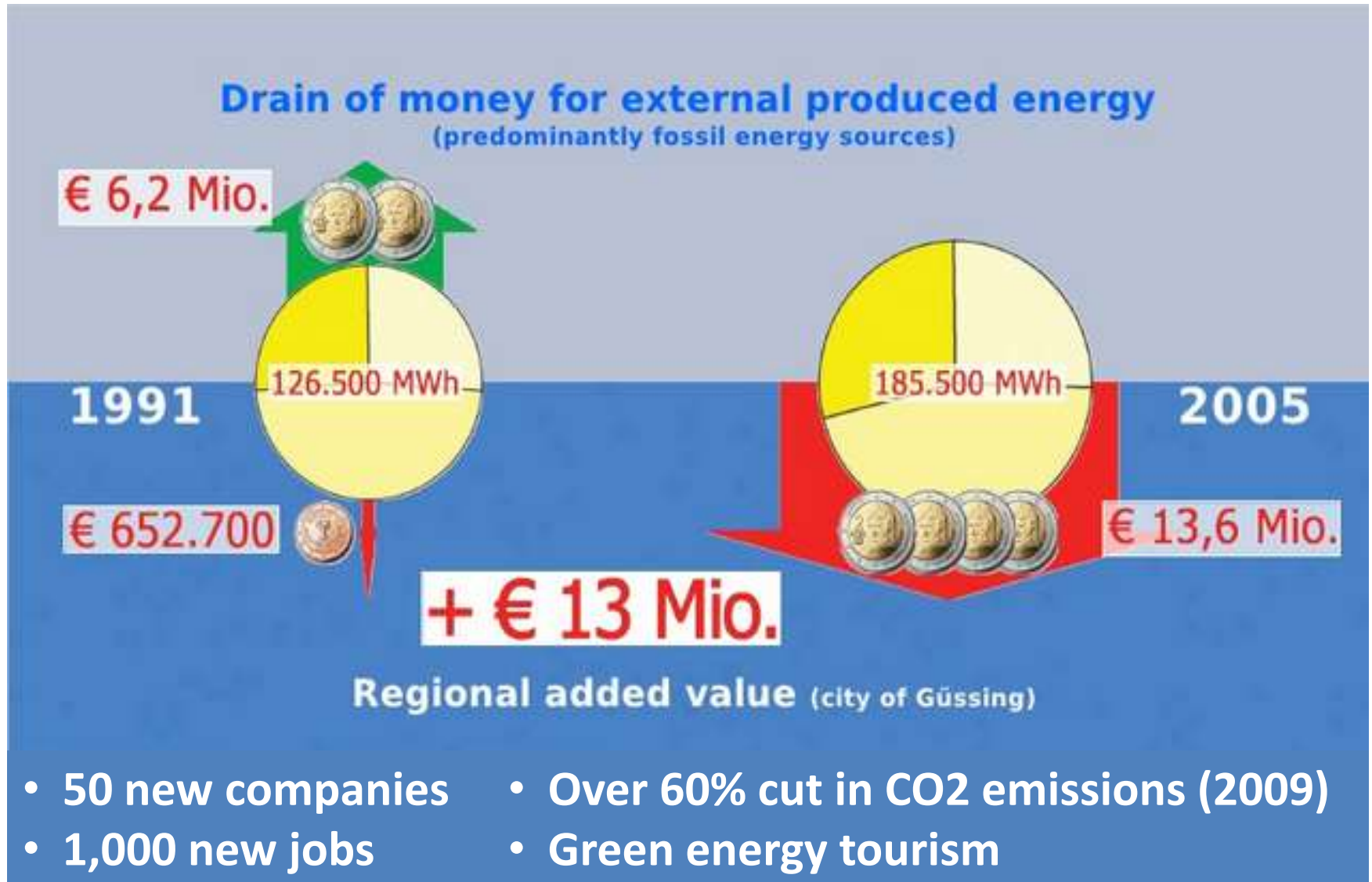- no decent traffic infrastructure

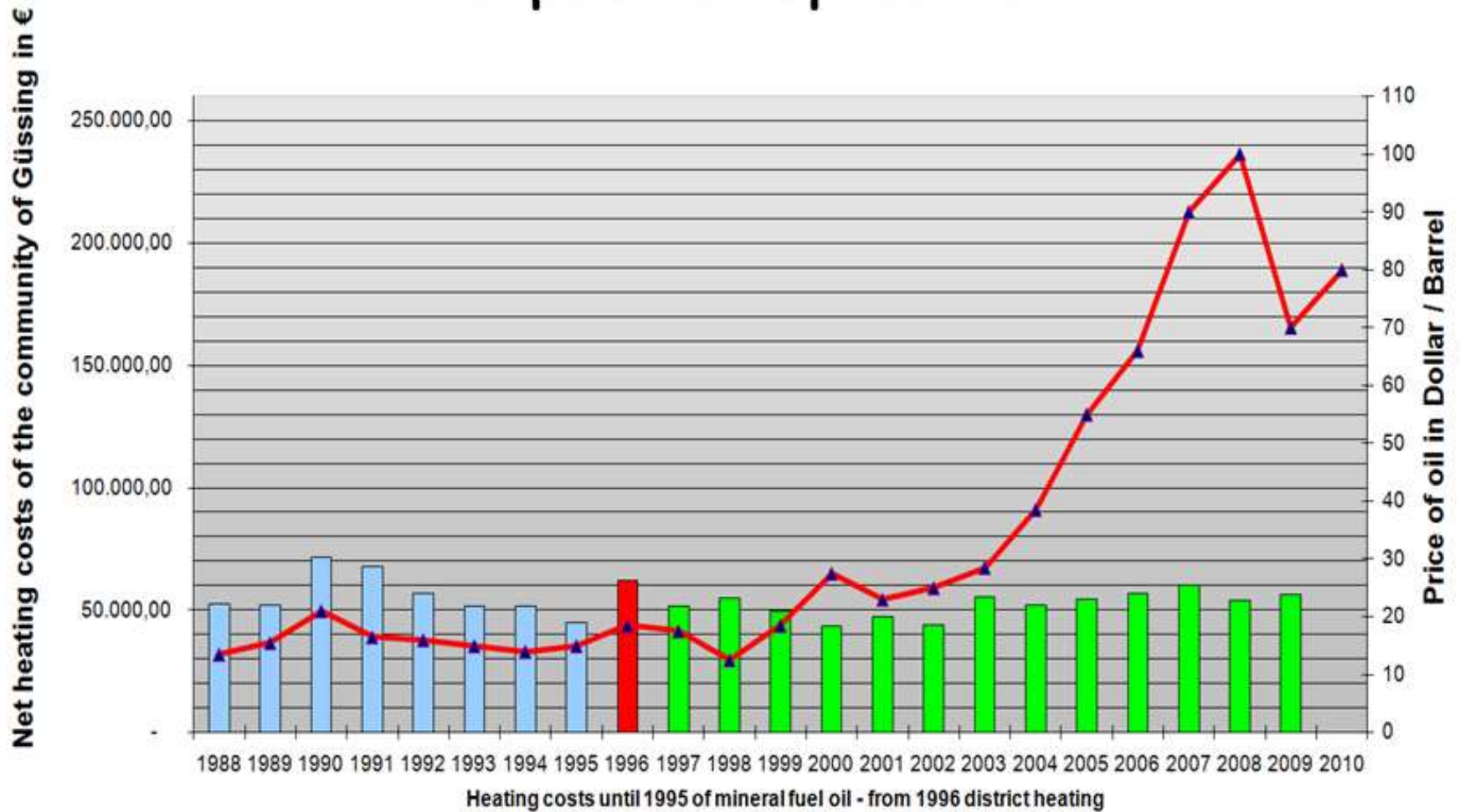**Source for Güssing related slides: European Center of Renewable Energy, Güssing**
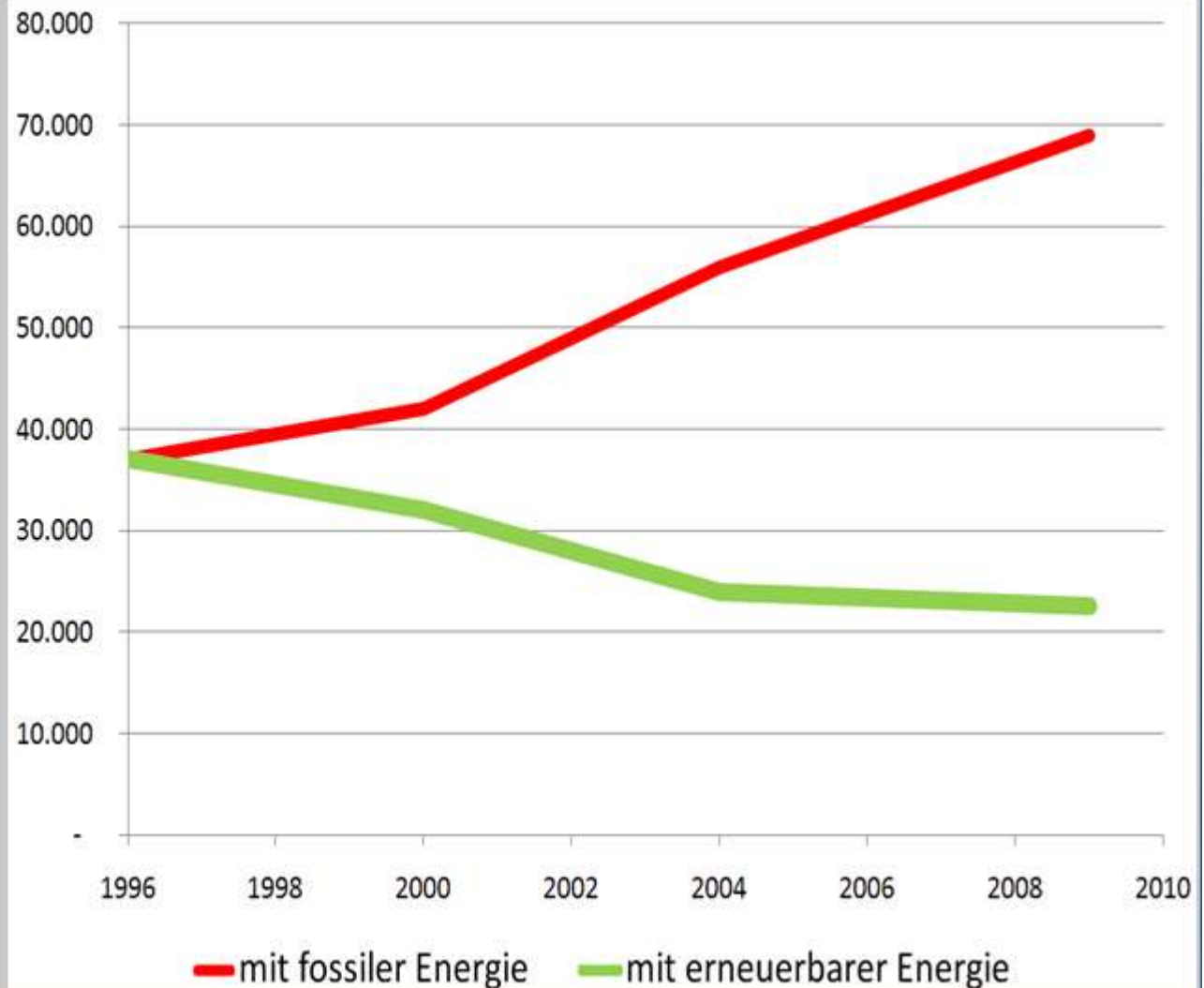
Target: Energy Independency

Going for "win-win"

Drain of money for external produced energy
(predominantly fossil energy sources)

€ 6,2 Mio.

126.500 MWh — 1991

185.500 MWh — 2005

€ 652.700

€ 13,6 Mio.

+ € 13 Mio.

Regional added value (city of Güssing)

- **50 new companies**
- **1,000 new jobs**
- **Over 60% cut in CO2 emissions (2009)**
- **Green energy tourism**

Impact on Heat Price

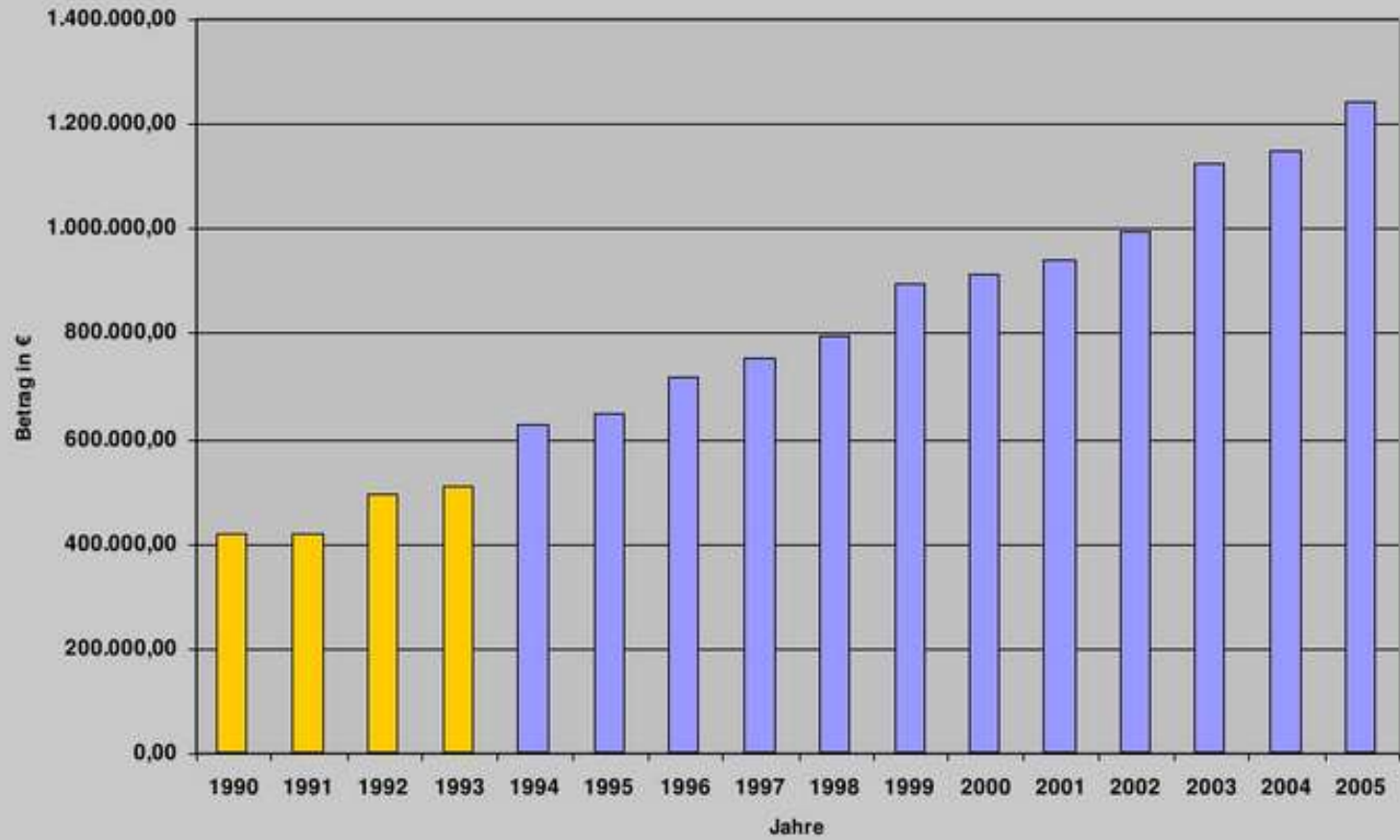Heating costs until 1995 of mineral fuel oil - from 1996 district heating

Impact on CO2 emissions

Impact on Public Revenues

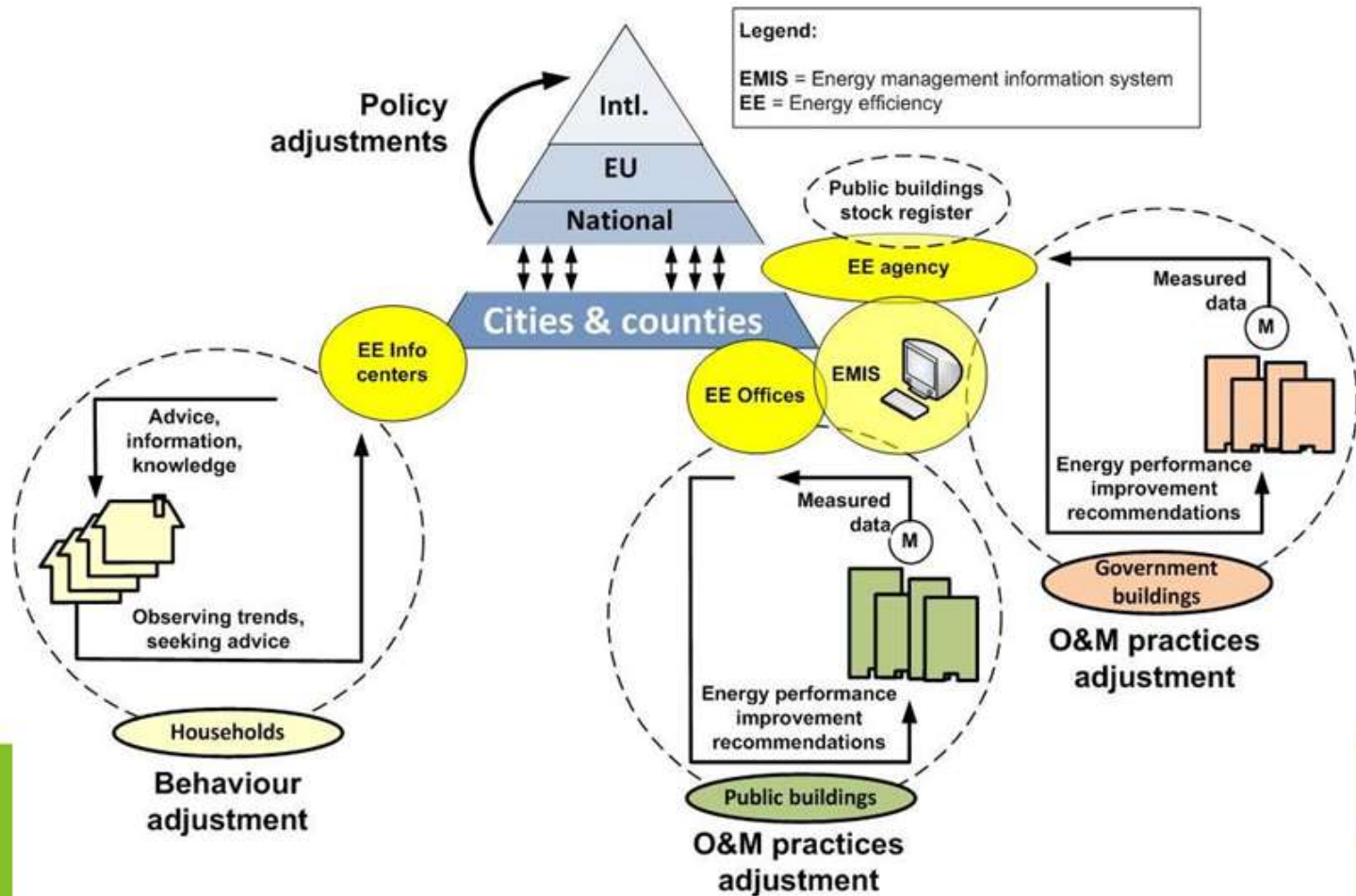Municipal tax development 1990 - 2005

From local initiative to global business

What the CSUD project can offer

- A platform for institutional collaboration, consultations and marketing of new innovative CSUD related ideas

- Support for specific events and initiatives to raise awareness on climate smart urban development and facilitate knowledge sharing, collective innovation and resource mobilisation in related fields

- Awards (challenge prizes) to motivate inventors and source new technical and systemic solutions for open data and urban climate change mitigation

- Technical backstopping and other support for developing the initial ideas into more mature community initiatives and leveraging resources for their further replication

- Complementary technical assistance and support for participating municipalities to improve their digital inventories and monitoring systems in climate change mitigation related fields (in co-ordination with the new UNDP EMIS project).

- As applicable, support for further development of an enabling legal and regulatory framework in project related fields

UNDP/GEF Croatia EE project

Examples of Global Partnership and Knowledge Sharing Platforms

What we need

- Partners to collaborate with, including public entities, NGOs, academic and private sectors and other donors

- Crowdsourcing prospective areas and subsectors for advancing the open data concept and for introducing CSUD challenge prizes

- Open minds for new approaches !

Hvala na pažnji - Thank you !

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