ESPON

ESPON Workshop:

Territorial Evidence for a European Urban Agenda

Green economic transformation in Europe: territorial performance, potentials and implications for a European Urban Agenda

Carlos Tapia, Fundación TECNALIA Research &Innovation

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Block 1. Introduction

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What is a 'green economy'?

A 'green economy' is a **policy-oriented concept** that can be broadly characterised as the ***operationalization* or *vehicle* of sustainable development**. Definitions:

- **EU**: "an economy that can secure growth and development, while at the same time improving human well-being, providing **decent jobs**, reducing inequalities, tackling poverty and preserving the natural capital upon which we all depend" (EC, 2011, p. 5).
- **EEA:** "an economy in which environmental, economic and social policies and innovations enable society to use **resources efficiently**, thereby enhancing human well-being in an inclusive manner, while maintaining the natural systems that sustain us" (EEA, 2010, p. 5).
- **UN**: an economy "for achieving sustainable development" that should "contribute to **eradicating poverty** as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth's ecosystems" (UN, 2012, p. 10).
- **OECD** (also WB and GGGI): refers to '**green growth**' as one that fosters "economic growth and development, while ensuring that natural assets continue to provide the resources and environmental services on which our well-being relies" (OECD, 2011a, p. 146). Similar approaches by the WB and the GGGI.

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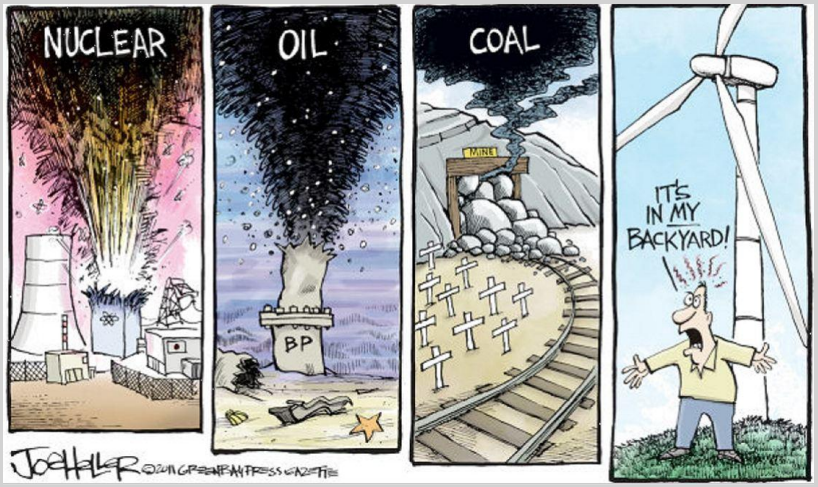
Green growth versus the green economy

An economy with high rates of green growth is not *necessarily* a "greener economy":

Reason 1: environmental (and territorial) externalities: *E.g. electric cars or wind-turbines could be developed on the basis of a fossil energy system or landscape degradation*. -> Life Cycle Assessment should be a central tool in policy design.



Source: http://www.cleanbreak.ca

Source: http://www.kilmac.co.uk

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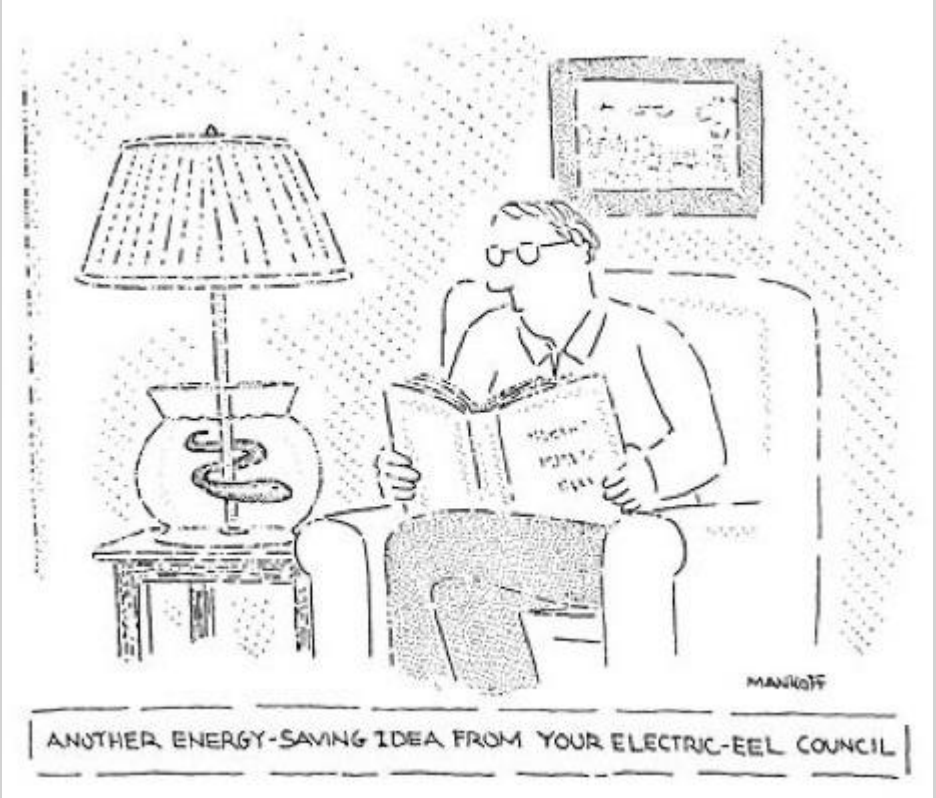
Green growth versus the green economy

An economy with high rates of green growth is not *necessarily* a "greener economy":

Reason 2: rebound effects: *E.g., the savings on the fuel bill of more efficient cars could be spent on a larger engine…*

The progress in resource efficient innovations has to be accompanied by other measures to guide consumption in other directions than more unsustainable resource use



Source: http://www.newyorker.com

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Green growth versus the green economy

The classification issue: which activities/sectors should be considered part of a **'green economy'?**

Which activity is 'greener'?

Which activity is part of the 'green economy'?

Source: http://www.cleanbreak.ca

Source: http://www.kilmac.co.uk

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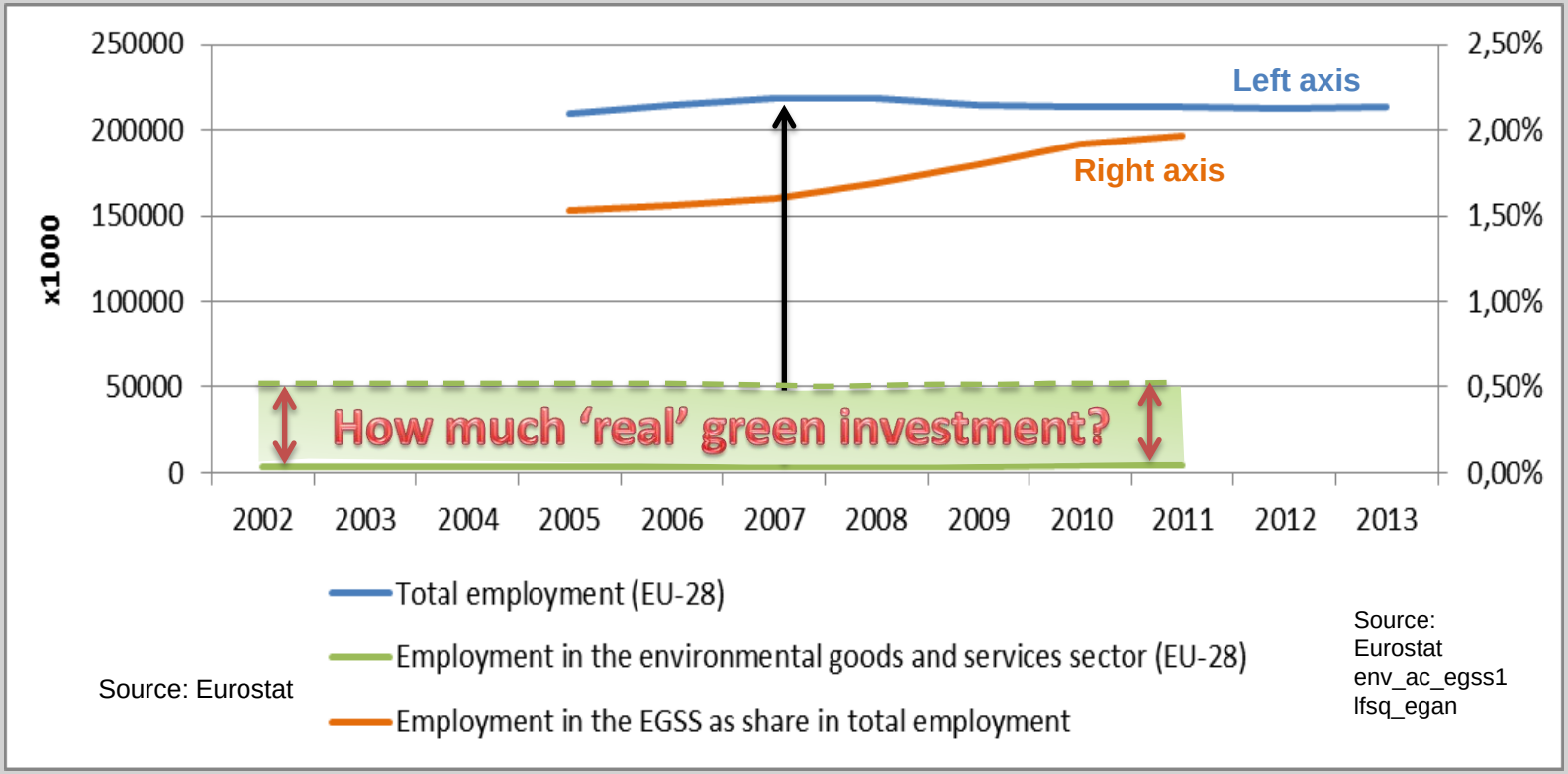
How big is the green economy in Europe?

We don't know the 'total figure'... In 2011 there were around 4 million people employed in the Environmental Goods and Services Sector (EGSS) in the EU



Source: Eurostat

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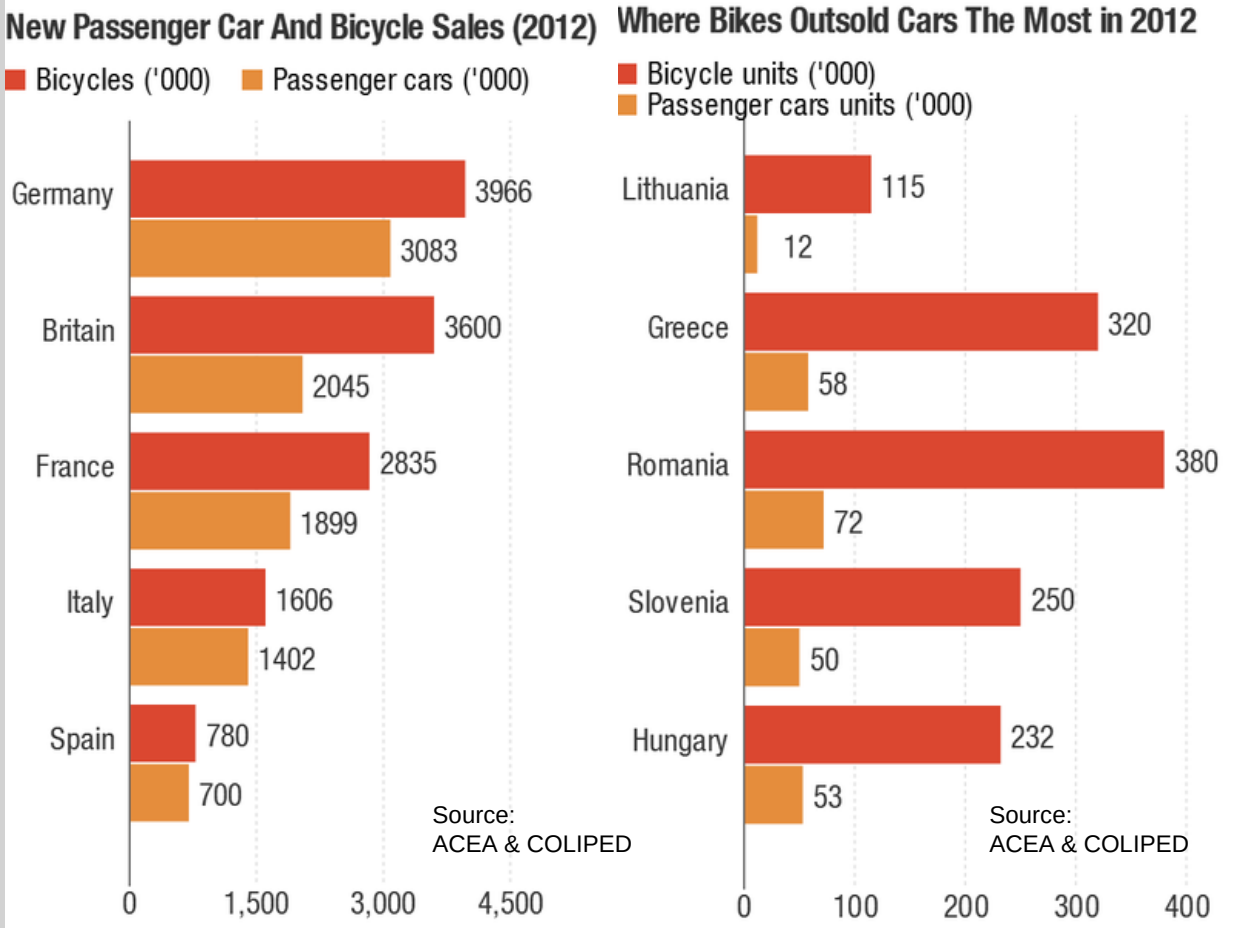
The crisis creates new opportunities for change



Are these trends just a consequence of the crisis or do they reflect something deeper (e.g. a behavioural change) to last after recovery?

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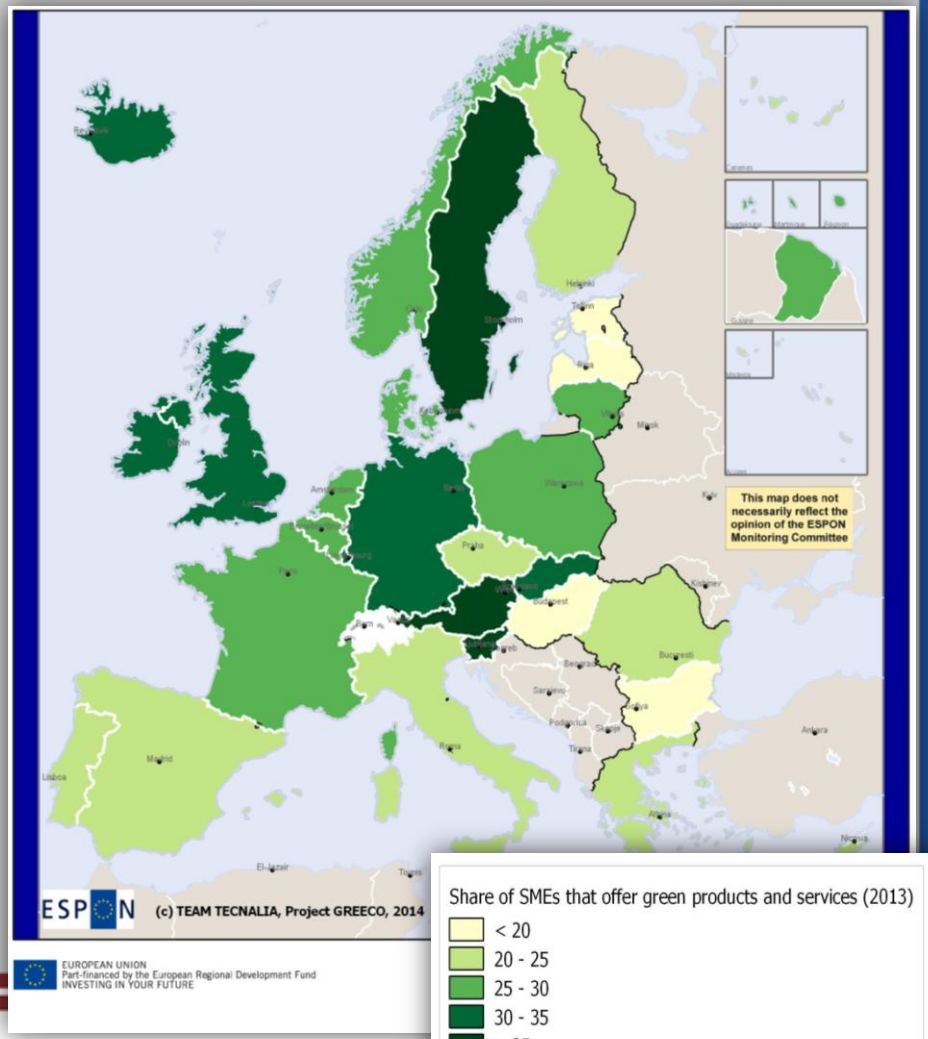
Restoring economic balances through the green economy?

Share of SMEs offering green products and services

The map shows the share of SMEs offering green products or services (Question 17), as reported by Flash Eurobarometer 381 (September 2013): SMEs, Resource Efficiency and Green Markets.



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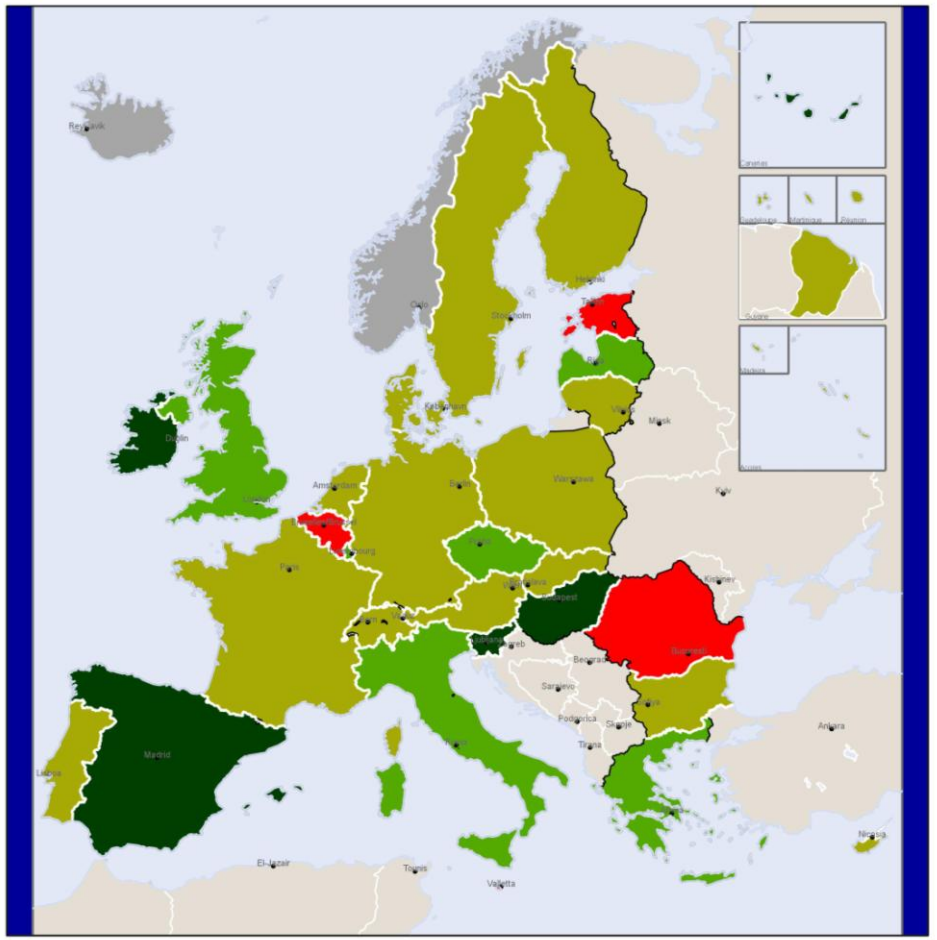
Green growth versus the green economy

Let's look at the 'big picture':

Decoupling growth from resource consumption and environmental degradation should be the ultimate policy goal!



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Block 2. The territorial dimension of the green economy

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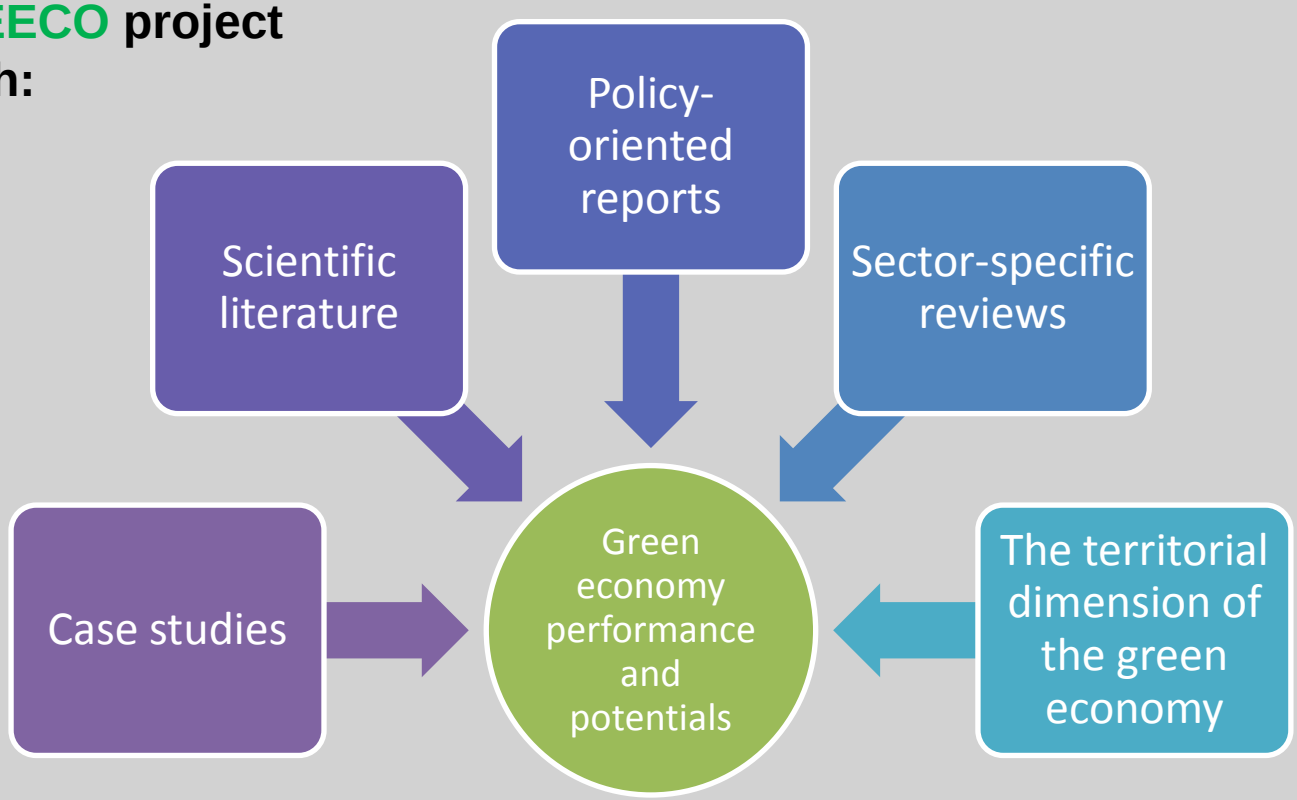
Characterizing the green economy: a territorial approach

The GREECO project approach:



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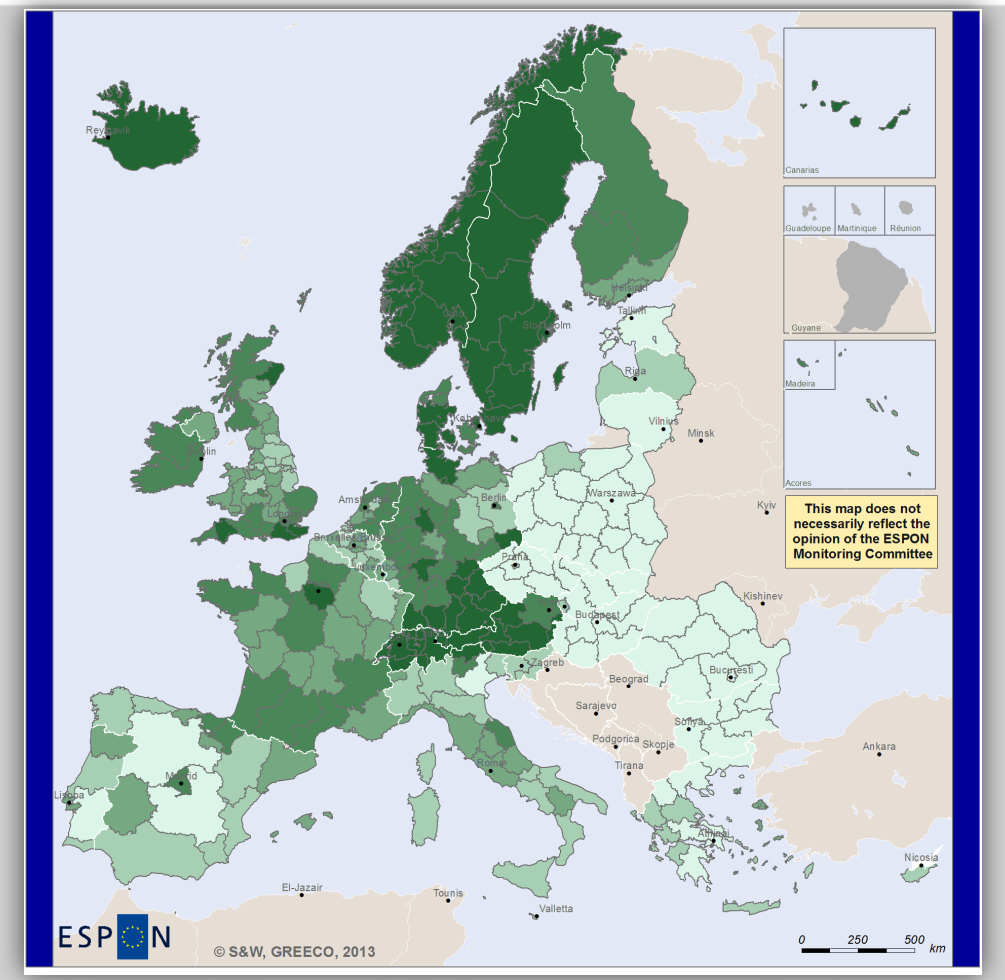
Assessing regional green economic performance at NUTS-2 level



The map was built basing on a twofold approach :

Bottom-up: For each of the sectors under study in GREECO, one key indicator has been selected.

Top-down: For each green economy spheres (Environmental, Social, Territorial, Economic, and Econosphere) quantitative profiles of green economic performance are provided.

Regional green economic performance
Aggregate typology (quantils)

- 24.1 - 42.3 (very low GE performance)
- 42.4 - 51.4 (low GE performance)
- 51.5 - 56.5 (average GE performance)
- 56.6 - 62.3 (high GE performance)
- 62.4 - 84.0 (very high GE performance)
- no data

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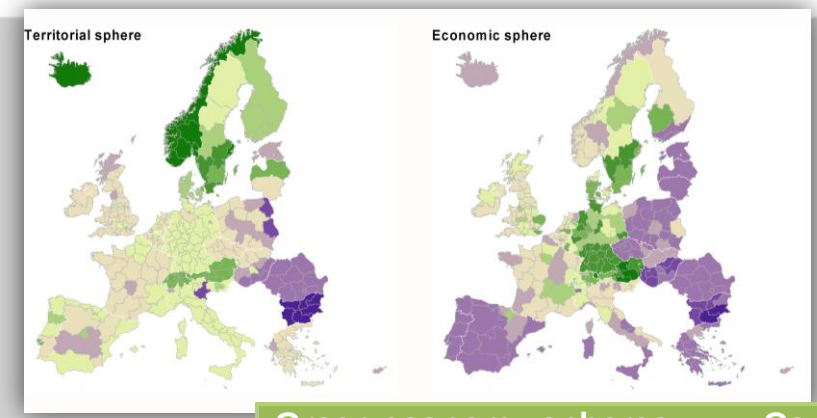
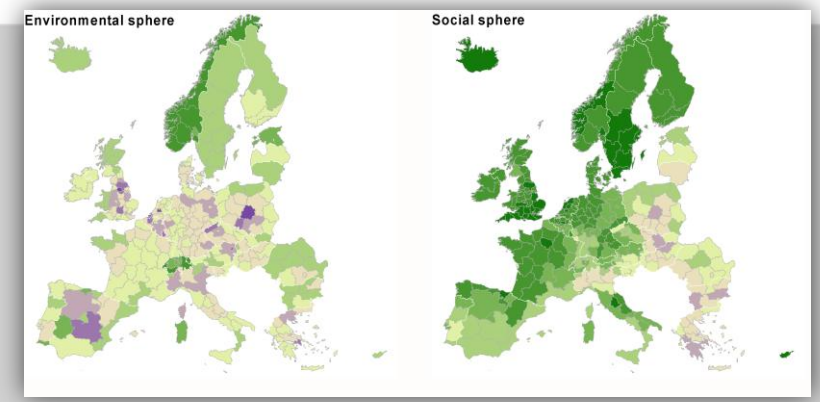
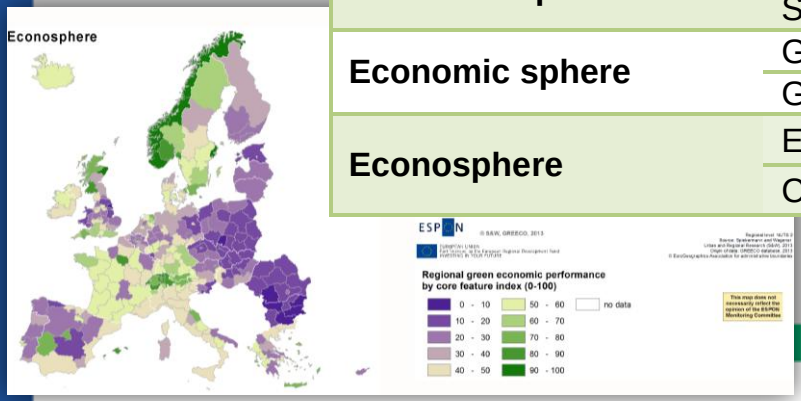
Green economy performance: a Multi-Criteria Assessment





Green economy spheres	Component	Headline indicator
Environmental sphere	Source function	Environmental and natural assets (EEA)
	Sink function	Emission of air pollutants
Social sphere	Health	Life expectancy
	Environmental risk	Exposure to air pollution
Territorial sphere	Territorial capacity	Renewable energy production
	Spatial efficiency	Land take per GDP unit
Economic sphere	Green supply	Green products and services offered
	Green technology	Green patents
Econosphere	Energy productivity	GVA per energy unit
	CO2 Productivity	GDP per CO2 unit



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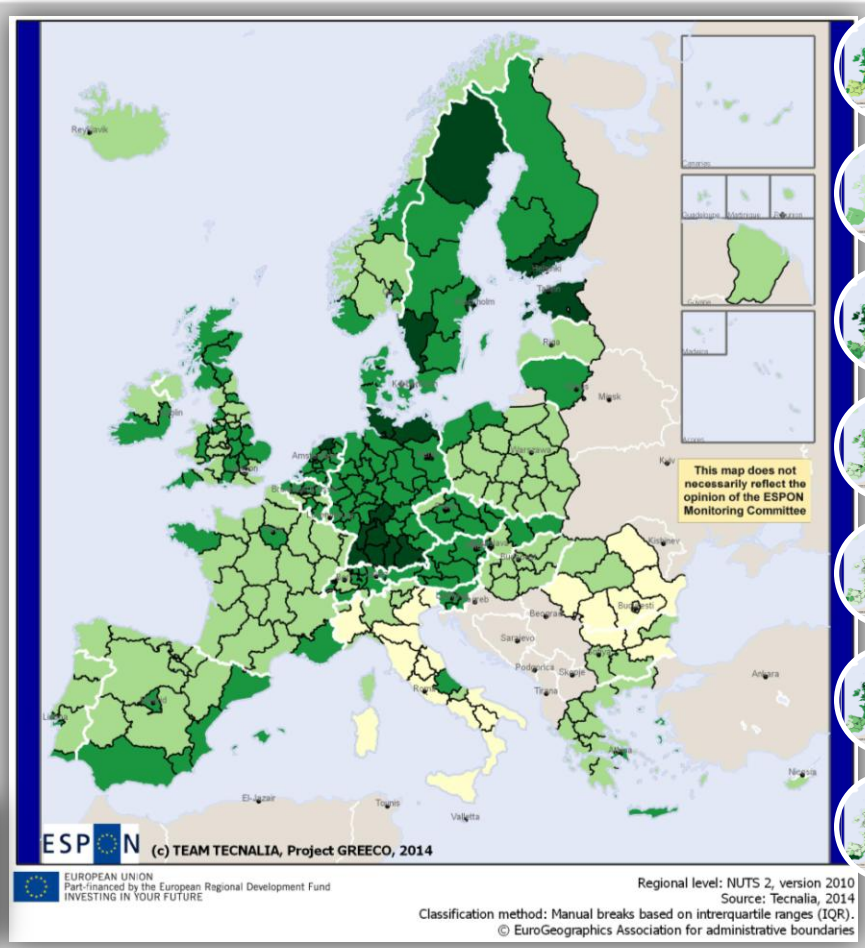
Assessing regional green economy potentials at NUTS-2 level

Regional typology of theoretical green economic potentials at NUTS 2 level (2013)

Source: Own elaboration basing on a Multi-Criteria Assessment.



Theoretical green economy development potentials
- High green economy development potentials (> Quartile 0.75 + 0.5 IQR)
- Medium to high green economy development potentials (Median to Quartile 0.75 + 0.5 IQR)
- Medium to low green economy development potentials (Quartile 0.25 - 0.5 IQR to Median)
- Low green economy development potentials (< Quartile 0.25 - 0.5 IQR)
- No data available


Good governance


Financial support


Territorial assets


Access to technology


Expected market demand


knowledge and skills


Voluntary actions

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Assessing green economy potentials: a Multi-Criteria Assessment

Green economy factors	Indicator
Good governance: institutions, policies and regulations	European Quality of Government Index (2009)
Key economic instruments: access to funding and financial support	Public/private support to SMEs for increased resource efficiency and/or the production of green products and services (2013)
Territorial assets and physical conditions	Combined onshore wind, photo voltaic and biomass energy potentials (TOE per square kilometre per year) at NUTS 2 level
	Percentage of Natura 2000 area by NUTS 2 region (2009)
Access to technology	Accumulated patents in selected environmental technologies per million inhabitants at NUTS 2 level (2005-2010).
	Share of patents in selected environmental technologies over total number of patents (2005-2010).
	Number of greentech clusters per million inhabitants (2013)
Expected market demand	Estimated annual CO2 emissions savings potential for the building sector in 2050 (Mt per square km per thousand inhabitants)
Human resources, knowledge and skills	Percentage of persons aged 25-64 and 20-24 with upper secondary or tertiary education attainment, by NUTS 2 regions (2011).
Environmental awareness and voluntary actions	Weighted share of municipalities that have signed the Covenant of Majors and have also submitted an Action Plan by mid- 2013.

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Block 3. The urban dimension of the green economy

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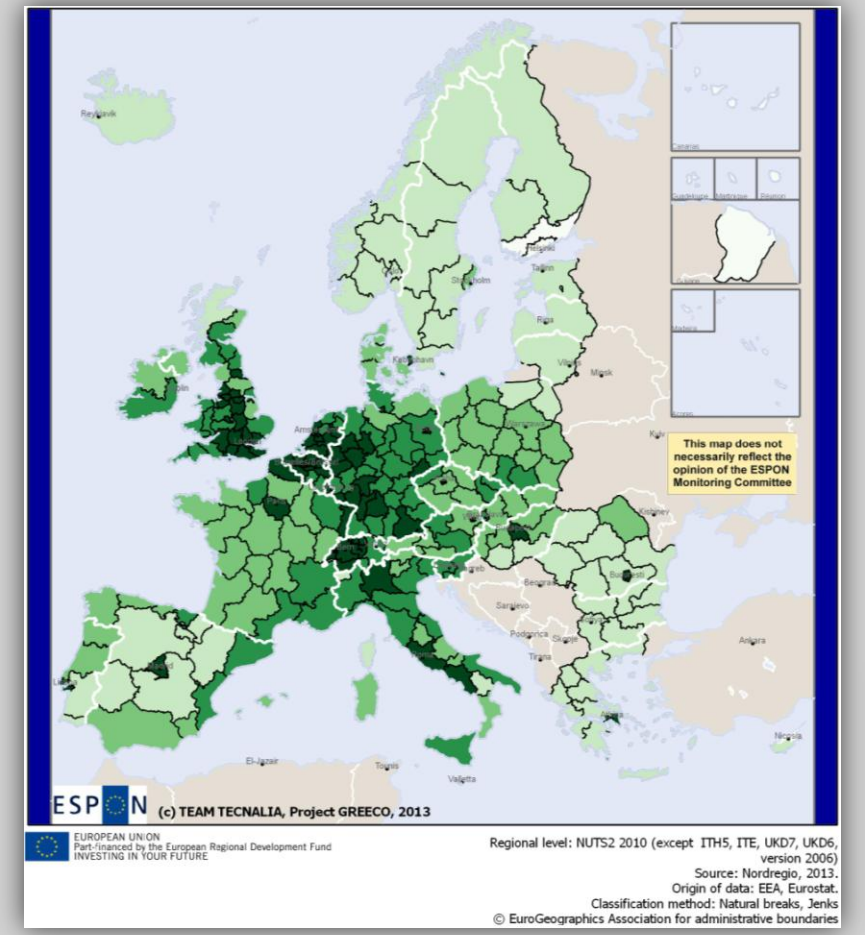
Green economy enablers: Expected market demand within cities



Estimated annual CO2 emissions savings potential for the building sector in 2050

Annual rates of energy consumption and CO2 emissions for the residential sector have been carried forward to 2050 based on population projections. This provides a 'no action' level of consumption / emissions, to which an 89.5% policy target can be applied to infer a potential for reduction in emissions.

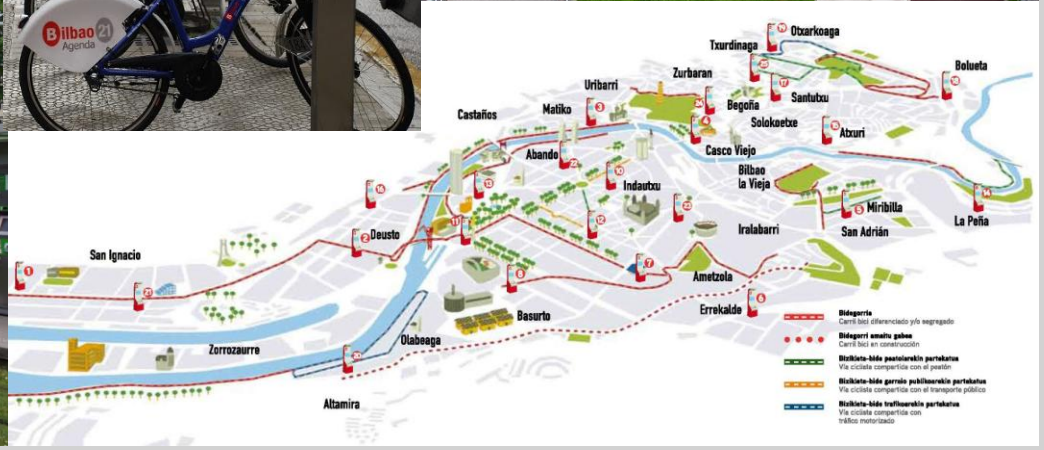
CO2 Emissions reduction potential of all residential buildings in NUTS 2 regions in 2050
Mt per km2 per 1000 inhabitants

- No data available
- 0.0000 - 0.0527
- 0.0527 - 0.1239
- 0.1239 - 0.2587
- 0.2587 - 19.0441

What cities can do in support of a greener economy: transport planning (I)

Enable, promote (and eventually enforce) ***non-car forms of mobility*** *across cities and peri-urban regions of functional distances though:*

- ***Sustainable urban planning*** (plan for urban structures that minimize car transport needs)
- ***Enabling behavioural change*** *(Plan incentives for alternative transports and discourage car use)*



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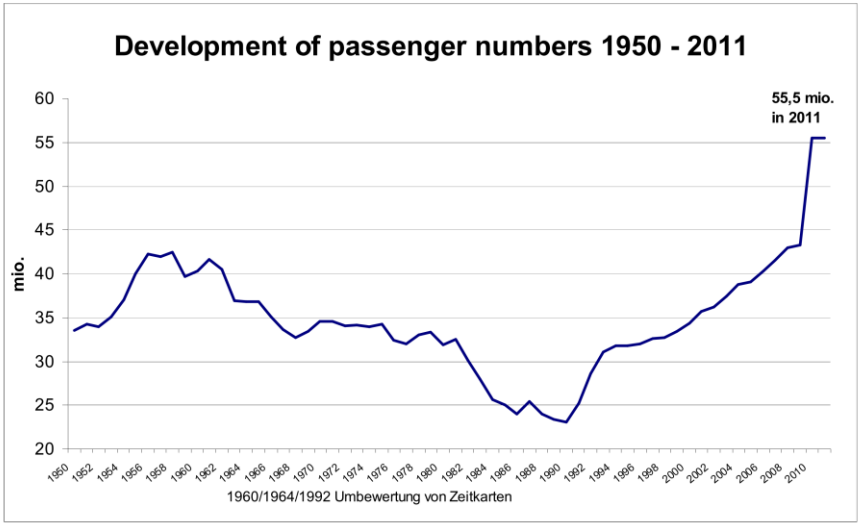
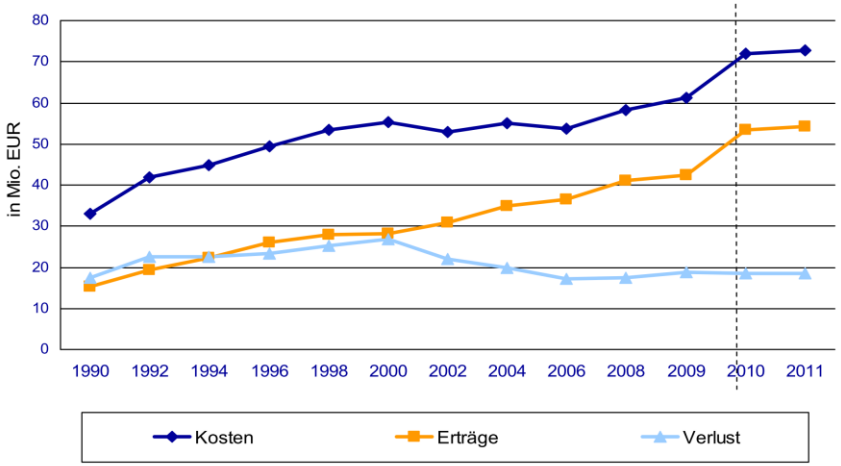
What cities can do in support of a greener economy: transport planning (II)

Planning transport transitions: **moBiel – Bielefeld´s public transport operator** provides an excellent example on how planning can transform a local transport system though well-designed, long-term, structural interventions.

moBiel



Development of costs, gains and losses 1989-2011



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What cities can do in support of a greener economy: transport planning (III)

Cities have a crucial role in greening the 'traditional' transport sector

Östersund has been very active in developing '**green traffic**' (including e.g. promoting the use of green cars and especially biogas, developing cycle traffic and informing about transport sustainability). The municipality has a permanent department for green traffic with two permanent employees and it has successfully worked towards decreasing the climate impact of travels and transport in the municipality.

ÖSTERSUNDS KOMMUN

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What cities can do in support of a greener economy: integrated planning (I)

Integrated sustainable urban and regional planning:

<u>Tackle urban sprawl</u>
within the city-region

- **Eliminate policies that favour single-family homes** over apartments because the former encourage less dense development.
- **Tax the land value, not the property**. When property taxes are based on land value, rather than buildings or other improvements to the property, owners have an incentive to develop the land to its most profitable use. Replacing a traditional property tax with a land-value tax or a split-value tax could encourage development in the urban core.

OECD. (2013). *Green Growth in Cities*. (OECD Green Growth Studies, Ed.) (p. 137). OECD Publishing. doi:10.1787/9789264195325-en

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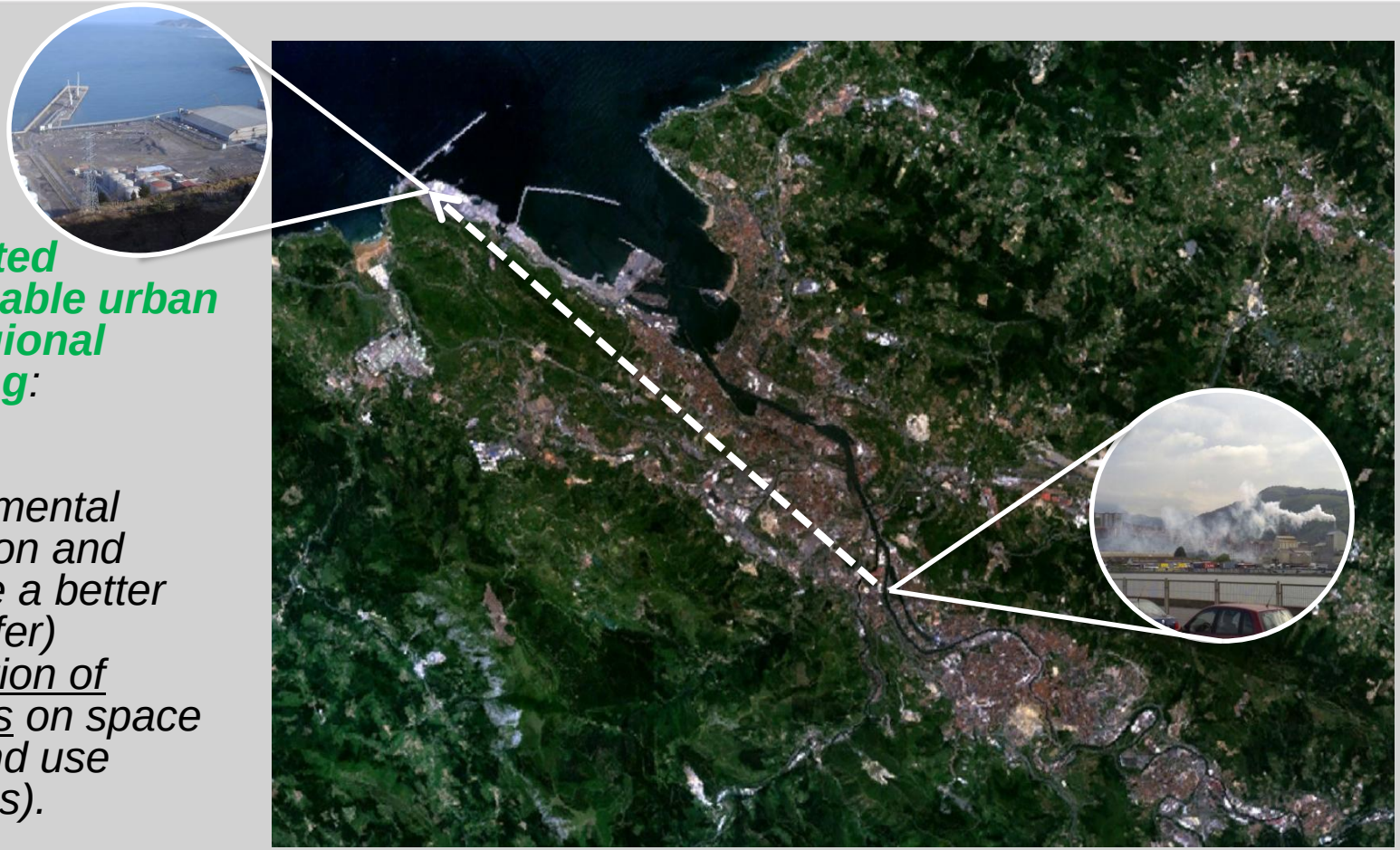
What cities can do in support of a greener economy: integrated planning (II)



***Integrated sustainable urban and regional planning**:*

Enforce environmental legislation and promote a better (and safer) distribution of activities on space (e.g. land use functions).

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What cities can do in support of a greener economy: integrated planning (III)

Towards a multi-level planning framework. With their physical planning powers, local authorities should collaborate with regional and national authorities in the following green economy sectors:

Energy: An increased regional/local perspective will be crucial to incorporate renewable energy in energy systems, and it will also intensify the implementation of support schemes by regional/local authorities.

Water and waste: Cities hold the keys to awareness raising and separate waste collection. Regions are better placed to organize functioning regional waste management systems. Regions may also be the right governance level for establishing industrial ecology systems whereas the waste from one industry is used by another industry.

Technology and innovation: eco-innovation strategies strengthen regional economies and reduce regions' dependency on non-renewable resources and thus increases resilience

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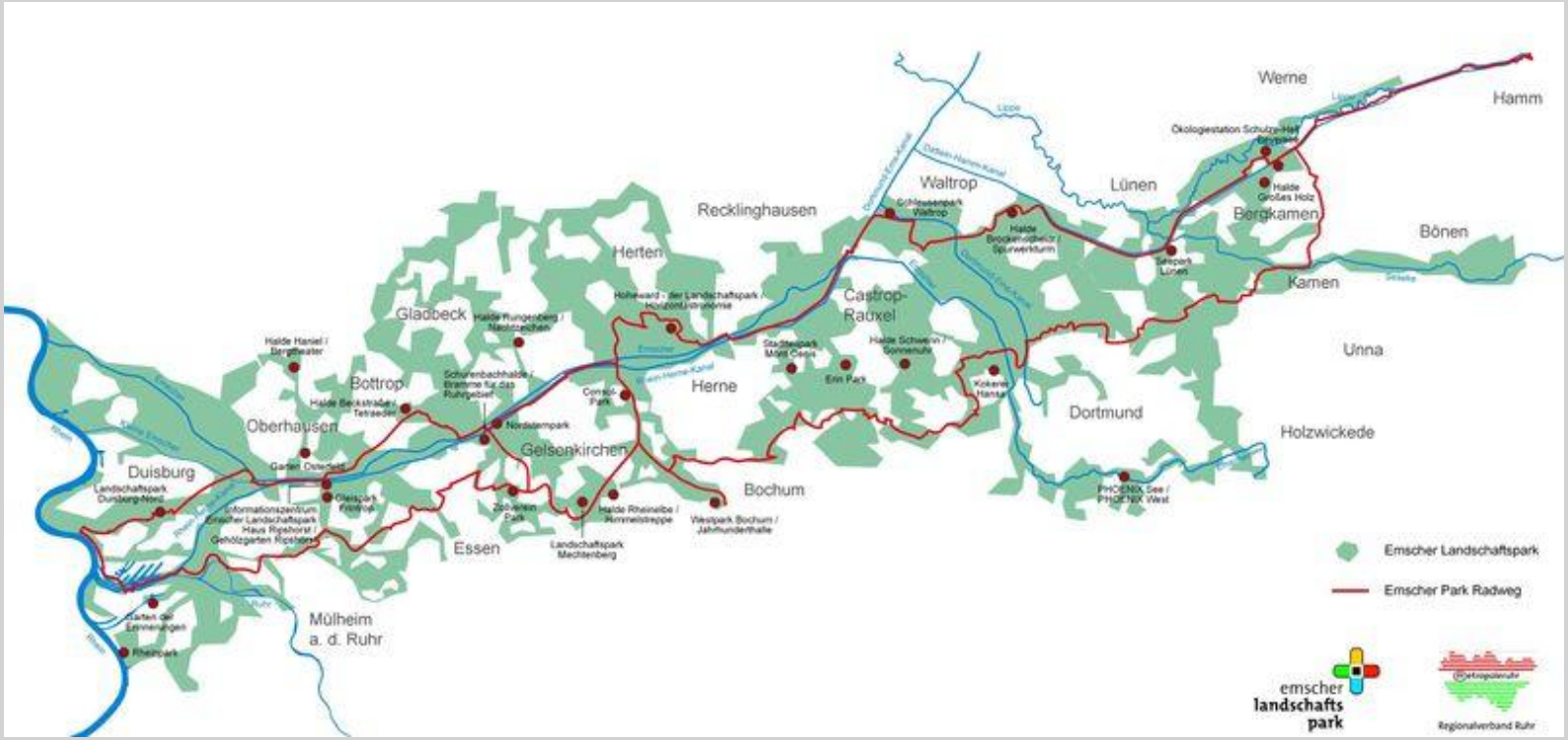
What cities can do in support of a greener economy: integrated planning (IV)

A **multi-level planning framework** for water management.

The **Emscher Master Plan** in the Ruhr area is a good example of integrated urban and regional planning for sustainable management of water resources



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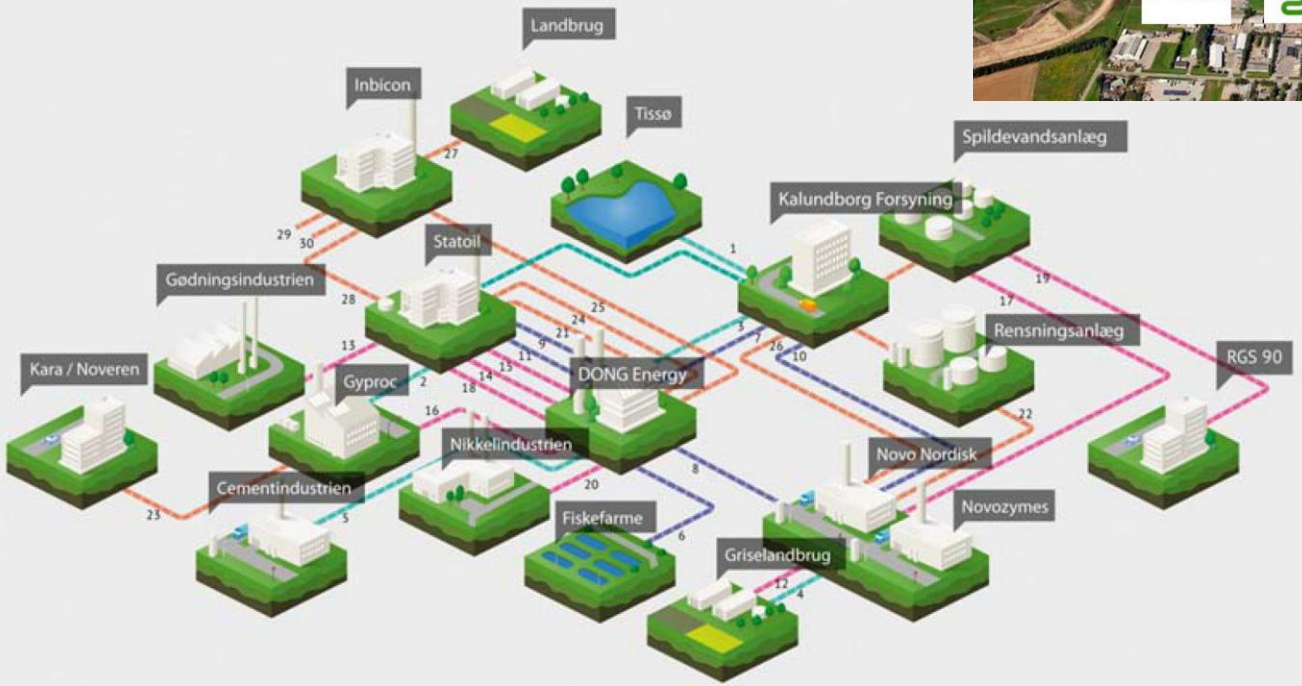
What cities can do in support of a greener economy: integrated planning (V)

A **multi-level planning framework** for industrial symbiosis.

Kalundborg's Industrial Symbiosis



Resource savings:

- Ground water: 2,0 mill. m3/year
- Surface water: 1,0 mill. m3/year
- Natural gypsum: 200,000 tons/year
- Oil: 20,000 tons/year
- CO2 emission (2008): app. 275.000 tons

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What cities can do in support of a greener economy: setting targets

Beyond planning: **Set (ambitious) targets**

For example London has set targets for 45% municipal recycling/composting by 2015; 70% commercial recycling/composting by 2020 and 95% of C&D waste by 2020. These goals are more ambitious than national and EU targets.

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What cities can do in support of a greener economy: GPP

Beyond planning: Adopt **Green Public Procurement**

"A city can **align public spending with environmental goals** in how it manages investments, subsidies, loans, tax breaks, **procurement** and public-private partnerships."

OECD. (2013). Green Growth in Cities. (OECD Green Growth Studies, Ed.) (p. 137). OECD Publishing.

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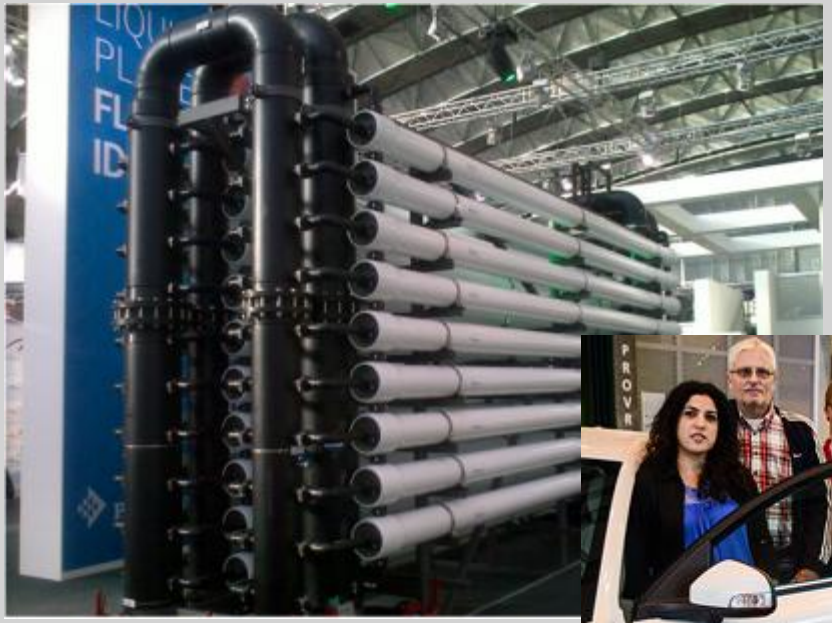
What cities can do in support of a greener economy: financial tools

Beyond planning: **Provide financial support to green transitions**

The City of Gothenburg issued the very first Nordic **'green bond'** in September 2013, developed by SEB together with The World Bank and other Swedish investors. The issuance is part of a potential SEK 2 billion green bond programme from Gothenburg to help fund environmental projects.



City of Gothenburg

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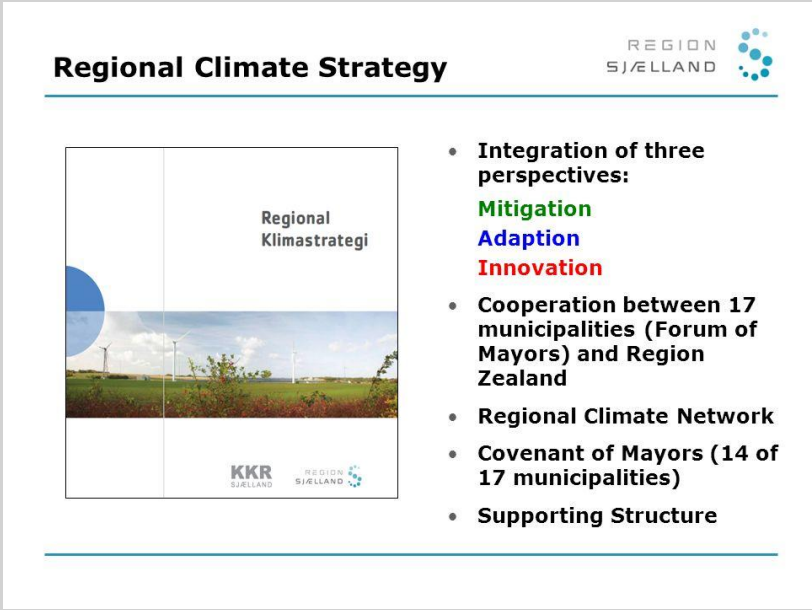
What cities can do in support of a greener economy: exchange

Beyond planning: **Join networks of cities with similar objectives, setting mutual commitments**

Almost all municipalities in the Danish region of Zealand are signatories to the **Covenant of Mayors** and national green economy commitment arrangements. These include not only commitments to reduce energy waste and emissions in the service institutions of the municipalities, but also to help the private sector in the territory of the municipality to become more resource efficient. Other active networks are **UrbAct**, the **Climate Alliance**, etc.



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Block 4. Key messages

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Summary of key messages (general)

1. An economy with high rates of **"green growth"** is not necessarily a **"greener economy".**
2. The **EGSS** is actively contributing to economic recovery. However, investments in such sectors have not been (and will not be) enough to offset reductions in traditional sectors.
3. **Decoupling** economic and employment growth from environmental degradation, resource depletion and energy consumption should be the ultimate goal of EU cohesion and territorial policies.
4. Territories (and cities) are diversely endowed to start and consolidate transitions to a greener economy and thus **"greening strategies" should be place-based** (just as they need to be sector-specific).
5. The territory, previously characterized by mono-functionality, today needs to be viewed as **spatial structures determined by multi-functionality**.

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Summary of key messages (specific for cities)

Cities can boost the green economy transition through:

1. **Planning instruments**: particularly those related to transport, land-use, service provision and master planning.
2. **Public spending and procurement**: A city can align public spending with environmental goals. Public spending can foster markets for new green goods and services.
3. **Financial support**: taxes and fees as incentives or disincentives to trigger behavioural change regarding transport, land-use, etc. In turn, public funding schemes can fill gaps in the supply of finance at the early stages of local green economies.
4. **Communication:** Consumer education programmes, eco-standards and eco-labelling and best-practice demonstration sites can help raise public awareness. change consumption habits and increase market penetration for green goods and services.
5. **City networks and initiatives** can supply information, education and concrete practical tools for engaging in greening initiatives.

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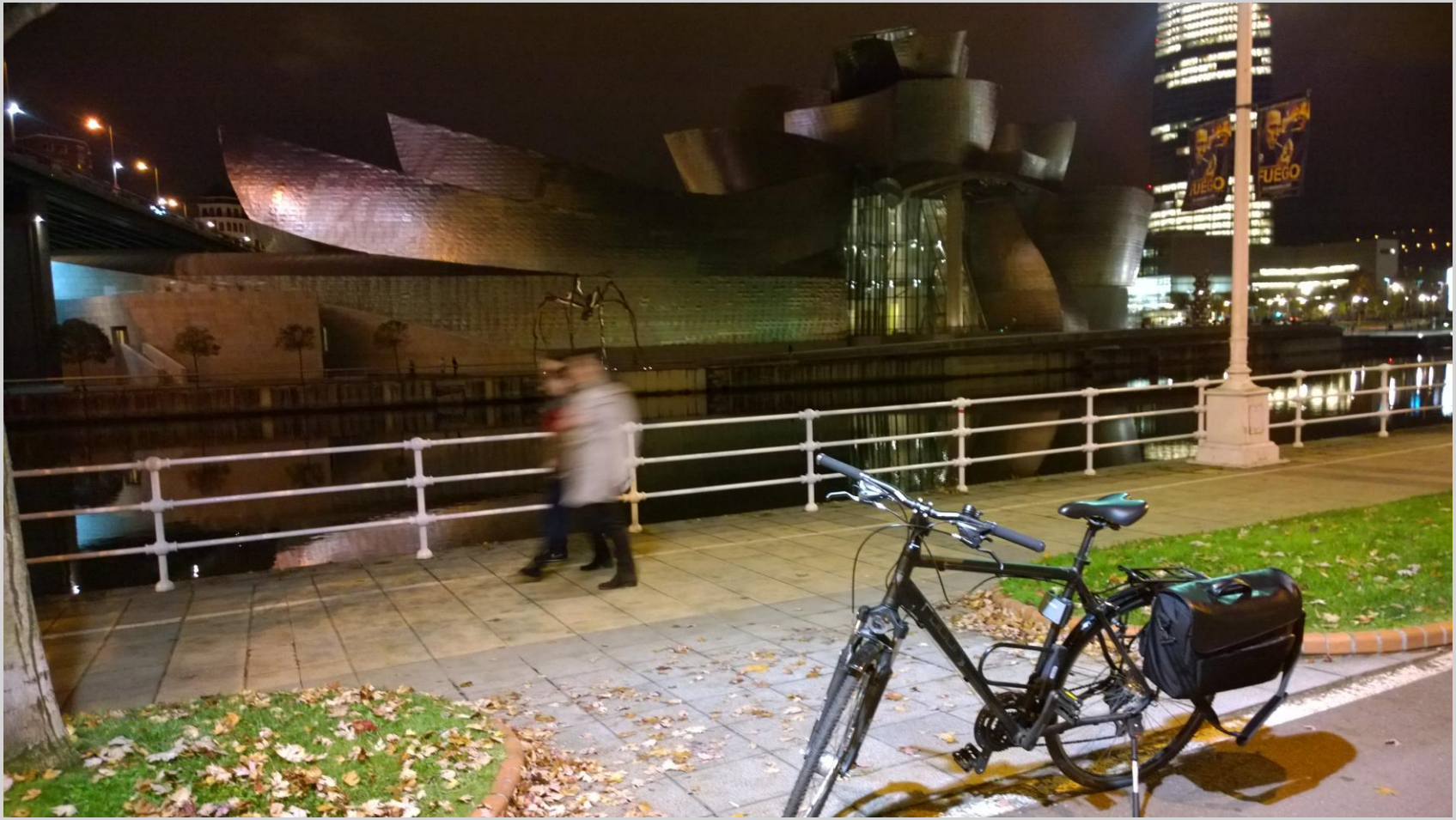
Thank you for your attention!



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