ESPON

ESPON Workshop at the Open Days

Brussels, 5 October 2010

Cooperation: the benefits of cooperating across internal and external borders

ReRisk Regions at Risk of Energy Poverty

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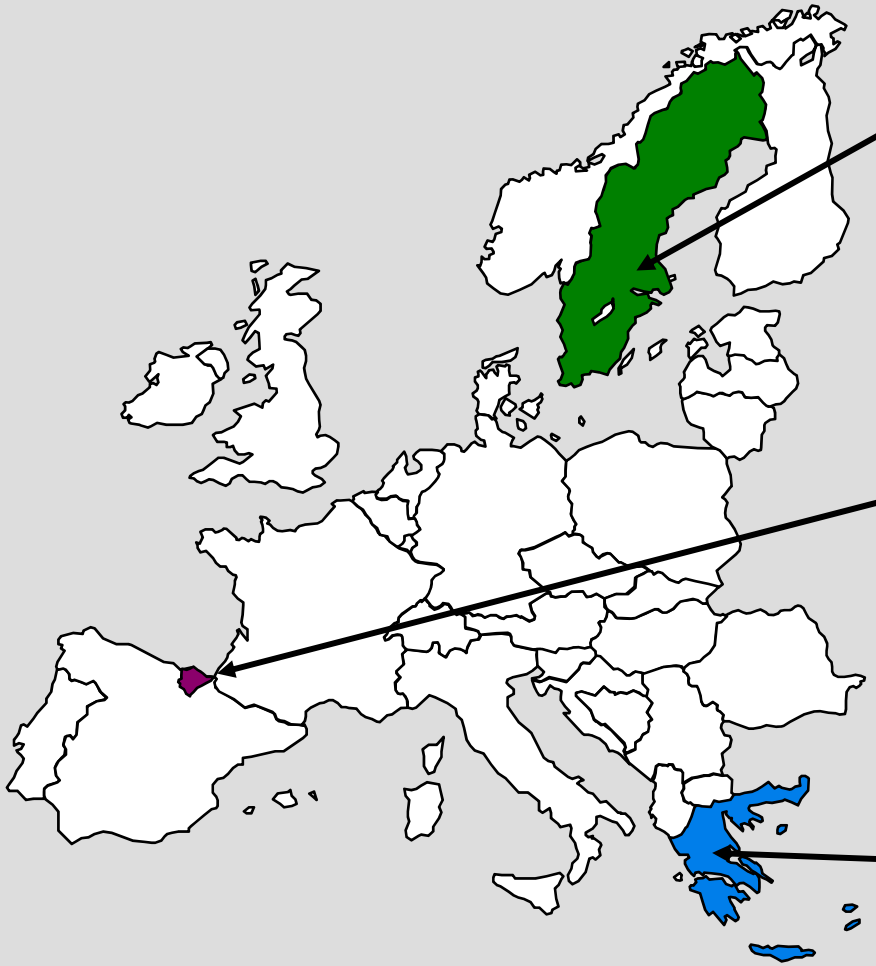
Consortium



Sweden

- **NordRegio**

Basque Country

- **Innobasque**
  - Tecnalia-Inasmet
  - Tecnalia-Labein

Greece

- **NTUA**

Project Overview

- Global view of the risk of energy poverty of the European regions
- To assess which are the policy options available to regions in order to cope with this challenge
- Long-term options for improving demand-side elasticities to rising energy pricing
- Web tool which will permit:
  - At regional level
    - to introduce your own region's data
    - to evaluate weaknesses
    - to define policies to: reduce the risk of energy poverty
  - At European level
    - To obtain a global view of the real risks of the different regions
    - To establish adequate European policies

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Methodology

Region's vulnerability has been measured in 3 dimensions:

- **Economic vulnerability**, mainly due to regional specialization in industries with high energy spending

- **The regions' dependence on (motorized) transport**, both in terms of employment and transport uses

- **Social vulnerability**, which refers to the segments of the population that may have problems paying their energy bills

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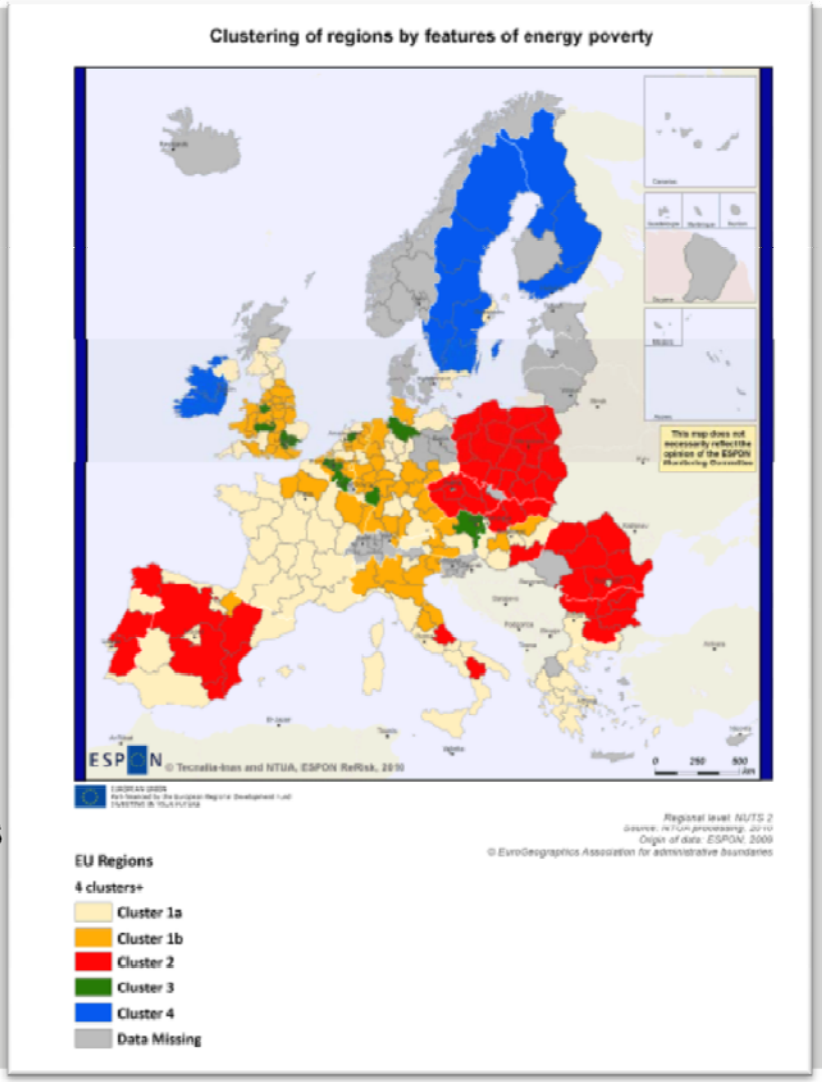
Methodology

Clustering process
Normalised and weighted variables

- **Climate conditions**
  - mean max temperature July
  - mean min temperature January
- **Economic structure**
  - % employment in industries with
  - high energy purchases (x2)
- **Transport dependency**
  - fuel costs of freight transport
  - % workers commuting
- **Social vulnerability**
  - long-term unemployment rate
  - disposable income in households
- **Production potential of renewables**
  - wind power potential
  - PV potential)



Scenarios

1. Green High- tech	2. Energy-efficient Europe	3. Nuclear energy for Big Regions	4. Business as Usual?
Emphasis on renewable energy	Emphasis on fossil energy (gas)	Emphasis on nuclear	Emphasis on fossil energy (coal)
High innovation capacity	Moderate innovation capacity	Moderate innovation capacity	Low innovation capacity
High presence of the service and knowledge economy	Balanced presence of all sectors in the economy	High presence of the primary and manufactory industry	Negative economic growth
-Urban and rural growth	-Urban and rural growth	-Urban and rural growth	-Increasing settlement centralization

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Main results

- Urgent measures are needed to help the most vulnerable regional economies
- Remote regions will face severe problems due to higher prices for long-distance travel and air transport
- A clear image of social disparities when analysing the exposure to energy poverty on regional level
- Mobilization of the potential for renewable energy sources Vs the lack of financial resources

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Main results

Economic vulnerability: regions in which a high share of wealth creation or employment depends on industries with high energy spending

Region	Employment in industries with high energy purchases / total employment (%)
Moravskoslezsko	14.23%
Emilia-Romagna	13.91%
Střední Morava	12.75%
Severovýchod	12.52%
Friuli-Venezia Giulia	12.50%
Lombardia	12.37%
Norra Mellansverige	12.14%
Veneto	12.09%
Severozápad	11.49%
Jihovýchod	11.33%
Piemonte	10.95%
Marche	10.41%

Region	GVA of industries with high energy spending / total regional GVA (%)
Moravskoslezsko	25.13%
Groningen	22.36%
Principado de Asturias	21.02%
Severozápad	20.37%
Pais Vasco	18.40%
Comunidad Foral de Navarra	17.82%
Niederbayern	16.84%
Castilla-la Mancha	16.76%
Prov. Brabant Wallon	16.44%
Emilia-Romagna	16.25%
Střední Morava	16.04%
Sterea Ellada	15.79%
Zeeland	15.71%
Severovýchod	15.64%

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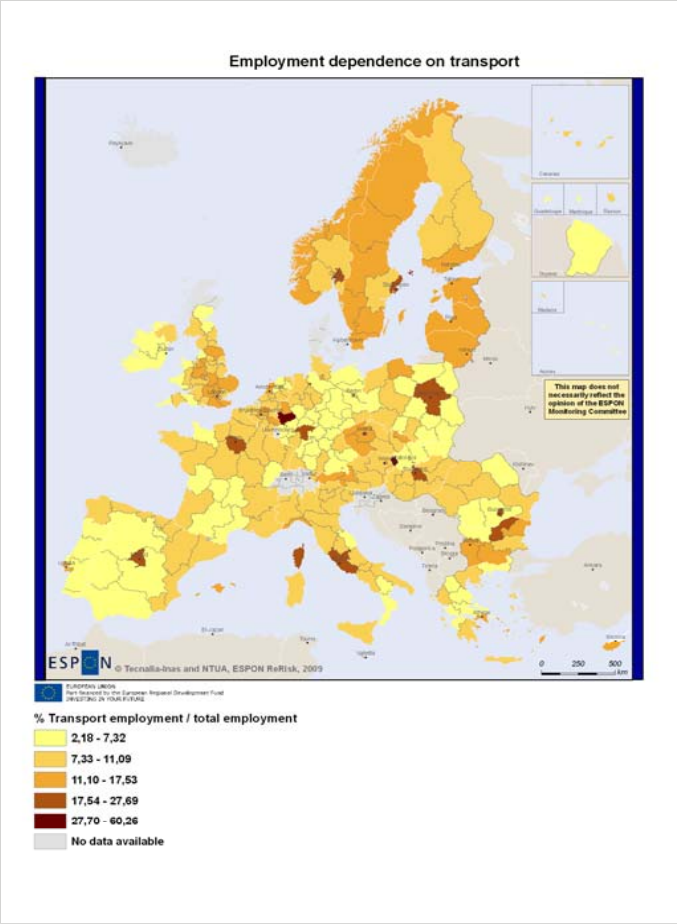
Main results

Transport dependence can be measured by the % of employment in the transport sector, commuting, the cost of freight transport and the extent of air travel



Region	Fuel costs as % of GDP 2005
Severen tsentralen	14.22 %
Yugoiztochen	8.18 %
Swietokrzyskie	7.99 %
Severoiztochen	7.16 %
Yuzhen tsentralen	6.72 %
Lubuskie	6.67 %
Podlaskie	6.59 %
Severozapaden	6.39 %
Střední Cechy	6.27 %
Región de Murcia	6.13 %

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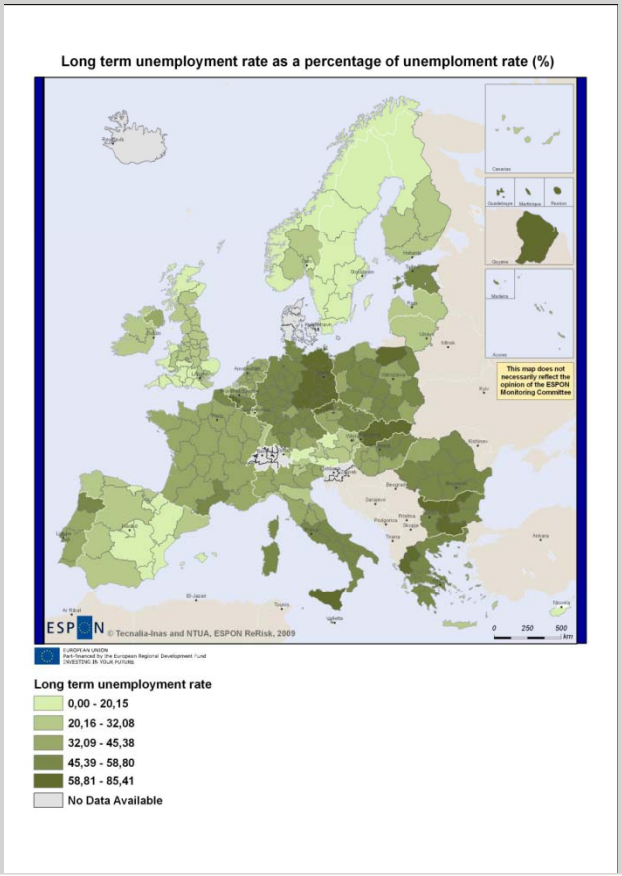
Main results

Social vulnerability is strongly related to the levels of poverty in the regions. Long-term unemployment and low rates of economic activity are two of the most important reasons why people slide into poverty.

Regions with the lowest activity rates

Region	Economic Activity Rate, 2005 (%)
Calabria	41.7
Puglia	42.1
Sicilia	42.1
Severozapaden	42.9
Campania	42.9
Molise	43.0
Basilicata	43.8
Észak-Magyarország	45.0
Észak-Alföld	45.6



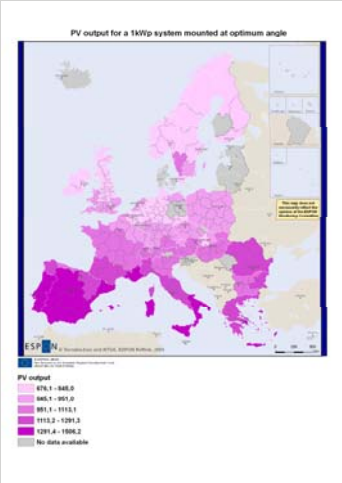
The benefits of cooperation

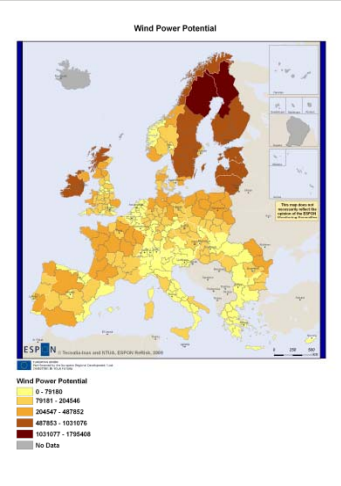
Regions can act on various levels to reduce their vulnerability and to improve their capacity to adapt to the challenge of rising energy prices. With the right policies in place, rising energy prices can turn into an opportunity for growth.

Region + National / EU

Region + (Region)

Region + Municipalities





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The benefits of cooperation

The policy recommendations results do not focus on energy policy only, since energy is a cross-cutting issue and therefore has to be approached from many different angles. While rising energy prices will result in structural changes in regions new business opportunities may appear in all scenarios.

The recommendations are addressing decision-makers on regional level with the objective of:

- reducing the regions' vulnerability on the short term
- improving the regions' adaptive capacity on the medium and long term

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Policy Recommendations

- General policy recommendations (good governance)
  - Promote energy solidarity between regions and territories
  - Strengthen regional and local networks
  - Fund and stabilize transnational research agencies
  - Promote awareness among regional policy makers on the impact of rising energy prices and the need for economic diversification
  - Define a vision for a regional energy model 2050
  - Push municipal leadership in public-private partnerships

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Policy Recommendations

- Spatial planning policies and strategies towards a more sustainable territorial management

  - Develop integrated spatial planning instruments Strengthen regional and local networks
  - Establish urban planning principles for solar energy use
  - Implement Urban Metabolism procedures
  - Promote industrial symbiosis and/or industrial eco-parks

  All these initiatives require **good governance** understood as a) horizontal coordination of sector administrations and policies b) vertical coordination of different levels of responsibilities and also c) public participation which in turm will increase regional capacity of response. Extended bottom-up participation processes are necessary to guarantee the efficiency of many long-term developments.

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Policy Recommendations

- Environmental Protection and Risk Prevention
  - Sustainable use of biocrops
  - Prepare for climate change impacts in the regional energy infrastructure
- Policies to Accelerate Deployment of Renewable Energy Sources
  - Evaluate the feasible potential of all renewable sources in the region
  - Incorporate solar and wind facilities in urban areas

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Policy Recommendations

- Policies to Promote Energy Efficiency
  - Improve the data on energy use and efficiency in Europe
  - Accelerate the transition to non-fossil fuels in the aviation industry
  - Create a market for energy efficiency (White certificates (EC, DG Environment, 2005)
  - Improve efficiency of office design and work arrangements
  - BAT (Best Available Technologies) for industrial energy efficiency
- Policies to fight Energy Poverty
  - Improved transparency and information on energy consumption
  - Consumer awareness and education; involvement of end-users
  - Social policies

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Thank You for your attention

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