ESPON

EUROPEAN UNION

Co-financed by the European Regional Development Fund

Inspire Policy Making by Territorial Evidence

Applied Research project

Territories and low-carbon economy

Theme: Low-carbon economy

Scope

One of the major challenges Europe's regions and cities are confronted with is climate change and its potential physical, social, economic, environmental and cultural impacts. Climate change adaptation measures should help to moderate harmful effects and/or exploit beneficial opportunities for cities and regions. In this context, the development and maintenance of green infrastructure plays an important role, since green infrastructure helps for instance in alleviating floods, storing carbon or preventing soil erosion.

Europe's ecological footprint is twice the size of its land area (WWF, 2014), and the EU is heavily and increasingly reliant on imports to meet its resource needs (Eurostat, 2014). One particularly important aspect of the broader goal of reducing the environmental burden of society's resource use is the transition to a low-carbon economy. The low-carbon economy should contribute to reduce emissions, improve energy efficiency, and support smart energy management and related research and innovation. The aim is to decouple economic growth from resource and energy use.

Along these lines of thinking, the European Commission issued in 2011 "A Roadmap for moving to a competitive low carbon economy in 2050". The roadmap is one of the long-term policy plans put forward under the "Resource Efficient Europe" flagship initiative of the Europe 2020 Strategy, intended to put the EU on course to using resources in a sustainable way. This was followed by the Energy Union Package issued early in 2015 that sets out to cater for greater energy security, sustainability and competitiveness.

A low-carbon economy would have a much greater need for renewable sources of energy, energy-efficient building materials, hybrid and electric cars, "smart grid" equipment, low-carbon power generation and carbon capture and storage technologies. Hence it is important to mobilise the

potential for renewable energy production and distribution in different regions and cities, having different territorial characteristics.

Policy questions

- What do energy consumption patterns (distinguishing between renewable and non-renewable energy) look like in European regions and cities (broken down into private households, public buildings, economic activities (services, agriculture and forestry) and transport? How have they changed over the past 10 years in the different types of European regions and cities (i.e. capital cities, secondary growth poles, small and medium sized towns)?
- Are there particular types of European regions and cities that find it easier in making full use of their renewable energy potential? How could challenges existing in this context be overcome in different types of territories? (up to 5 case studies)
- What kind of action/policy is needed in what type of region/city to ensure a smooth transition to a low-carbon economy/lifestyle? How can regions and cities create framework conditions for unlocking low-carbon investment by the private sector?

Main expected results

- Evidence on energy consumption patterns in European regions and cities broken down into households, public buildings, economic activities (services, agriculture and forestry) and transport, and their change over the past 10 years.
- Development, or if feasible, application of existing models and estimates to reveal energy consumption patterns on NUTS 3 level.
- Evidence on the regional potential for the production and exploitation of renewable energy in Europe.
- Up to five case studies on different types of European regions and cities that provide a more detailed insight into changing patterns of energy consumption over the past 10 years, but also on the experiences made in shifting to a low-carbon economy. Lessons learnt

from these cases should be transferable to other similar European regions/cities.

- Knowledge about the factors that can support European regions and cities in making full use of their low-carbon potential.
- Evidence on specific governance aspects that can help involving the private sector in unlocking low-carbon investments (e.g. specific policy instruments and voluntary actions that have been tested, proved to be helpful and might be applicable to a wider area).

Contractors

- ÖIR, Austrian Institute for Regional Studies and Spatial Planning, AT (lead contractor)
- Energy Economics Group, Vienna University of Technology, AT
- Fraunhofer Institute for Systems and Innovation Research, DE
- Global Urban Research Unit, Newcastle University, UK

Project Support Team

- Anneloes Van Noordt, Belgium (Flanders)

Budget: € 686,600.00

Lifetime: June 2016 – November 2017

Deliveries

- Inception delivery, 18 August 2016
- Interim delivery, 17 February 2017
- Draft Final delivery, 17 July 2017
- Final delivery, 17 November 2017

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ESPON 2020 – More information

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The ESPON EGTC is the Single Beneficiary of the ESPON 2020 Cooperation Programme.
The Single Operation within the programme is implemented by the ESPON EGTC and co-financed by the European Regional Development Fund, the EU Member States and the Partner States,

Iceland, Liechtenstein, Norway and Switzerland.

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