

Energy Union: the regional and local dimension

SUMMARY

The Energy Union strategy, launched in February 2015, integrates all EU energy policy ambitions and objectives to date and seeks to capitalise on the various funds and initiatives already in place.

EU cohesion policy, aimed at ensuring balanced development across EU territory, will make a significant contribution to the fulfilment of the Energy Union's overarching goal of decarbonisation. For the period 2014-20, €38 billion will be available under the European Fund for Regional Development and the Cohesion Fund to support investments in the low-carbon economy. To help regions make best use of this funding, different expertise-sharing platforms have been established, notably in the field of research and innovation.

The local and regional levels are actively involved in on-the-ground delivery of EU energy policy ambitions. Useful lessons can be drawn from cooperation initiatives in place at this level, in view of a possible replication in other parts of Europe, contributing to further integration in the energy field. With almost 75% of the EU's population living in European cities, the Energy Union clearly has an urban dimension. Cooperation frameworks include the Covenant of Mayors and the European Innovation Partnership on Smart Cities and Communities.



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Background

Energy played a founding role in the European project, with the creation of the European Coal and Steel Community (1951) and of the European Atomic Energy Community (1957). However, the European Union (EU) had no energy policy for many years, as no legal basis existed in the Treaties allowing for the development of such a policy.

The EU was nevertheless active in the energy field, both on the economic and environmental fronts. In the mid-1990s, it engaged, under the internal market programme, in a process designed to gradually open the electricity and gas markets to competition. To this end, three consecutive liberalisation [packages](#) were adopted in 1996/98, 2003 and 2009; the completion of the internal energy market being envisaged for 2014-2015. In parallel, as part of its environmental action, the EU has taken various [climate-related](#) initiatives since 1991, with a view to reducing its greenhouse gas (GHG) emissions and limiting global warming.

With the European Commission's communication on '[An energy policy for Europe](#)' (January 2007), moves were taken towards a more integrated approach to energy, in the context of increasing awareness of EU Member States' interdependence in this area. On the basis of the Commission proposals, the European Council adopted, on 9 March 2007, a comprehensive [energy action plan](#) for the period 2007-2009, in which it endorsed, in particular, the overarching **20/20/20 targets**: a 20% cut in greenhouse gas emissions from 1990 levels, a 20% share of renewable energies in overall EU consumption, and a 20% improvement in energy efficiency by 2020. These objectives were enacted in legislation through the 2020 climate and energy package, adopted in 2009. That same year, EU leaders [committed](#) to a long-term goal of reducing GHG emissions by 80-95%, when compared to 1990 levels, by 2050. The process towards more coordination at EU level gained momentum with the entry into force of the Lisbon Treaty, endowing the EU with competence for energy, and a firm legal foundation on which to build a European policy (see box).

Energy: a shared competence

[Article 194](#) of the Treaty on the Functioning of the European Union (TFEU) enables the Union to adopt legally binding acts to ensure the functioning of the energy market and security of energy supply in the EU; to promote energy efficiency and saving, and the development of new and renewable forms of energy; and to support the interconnection of energy networks. Member States, however, retain the right to determine the conditions for exploitation of their energy resources, their choice between different energy sources, and the general structure of their energy supply.

To complement its 2020 and 2050 energy strategies, in 2014 the EU adopted a new climate and energy [policy framework](#) setting intermediate targets for the period 2020-30: a 40% reduction in greenhouse gas emissions compared to 1990, a 27% market share for renewable energy, and a 27% target for energy efficiency. Growing concerns over external supply dependency, fuelled in particular by the Ukraine conflict and tensions with Russia, prompted the adoption, in May 2014, of a European energy security [strategy](#). These actions prepared the ground for the European Energy Union, one of the Juncker Commission's ten [political priorities](#). Initially inspired by a proposal submitted in April 2014 by Donald Tusk, then Poland's Prime Minister, primarily focused on gas supply security, the Energy Union concept has evolved into a broader strategy encompassing all areas, ambitions and objectives of EU energy policy to date.

The Energy Union strategy

The Energy Union package was adopted by the Commission on 25 February 2015, and [endorsed](#) by the European Council on 19-20 March 2015. It includes a [communication](#) setting out the goals of the Energy Union framework strategy, accompanied by a [roadmap](#) detailing the legislative and non-legislative actions envisaged; a [communication](#) on achieving the target of 10% electricity interconnection by 2020; and a [communication](#) outlining EU's vision for a global climate agreement at the United Nations Climate Change Conference in Paris (COP 21) in December 2015.

Aiming to establish an EU energy system where 'secure, sustainable, competitive and affordable' energy would flow freely across national borders, the Energy Union framework strategy is structured around five closely related strands. The first one, related to **energy security, solidarity and trust**, seeks to address the EU's heavy reliance¹ on foreign energy imports through the diversification of energy sources, suppliers and routes; Member States' cooperation to ensure security of supply; a stronger European role in global energy markets; and more transparency on gas supply contracts.

The second strand sets out actions to achieve **a fully integrated energy market**. These include support for the implementation of major infrastructure projects through the available financial means with a view to interconnecting markets; full implementation of the third internal energy market package adopted in 2009; strengthening of the regulatory framework; development of regional approaches to market integration; greater transparency on energy costs and prices; and measures to empower consumers.

The third dimension, dedicated to **energy efficiency as a contribution to the moderation of energy demand**, covers actions targeting the transport and buildings sectors, which for the most part need to be carried out at national, but also and in particular at regional and local levels. To achieve the indicative target of 27% energy savings set out in the policy framework for 2030, which will be reviewed by 2020, with an EU level of 30% in mind, a new approach is proposed; inviting a fresh look at energy efficiency, treating it as an energy source in its own right.

The fourth pillar deals with the **decarbonisation of the economy**, which is intertwined with EU climate policy and GHG emissions reduction targets (40% by 2030, compared to 1990 levels). The EU aims to become the world leader in renewable energy, and to reach the 27% market share target set for 2030, it therefore needs, inter alia, energy markets and grids fit for increased renewable production, and investment in advanced, sustainable alternative fuels and the bio-economy.

The fifth and last strand relates to **research, innovation and competitiveness**. Core priorities include next-generation renewable technologies and energy storage; consumer participation through smart grids, home appliances, and cities; energy neutral building stock; innovative and more sustainable transport systems. Carbon capture and storage (CCS) and nuclear energy feature among the additional research priorities for Member States willing to use them.

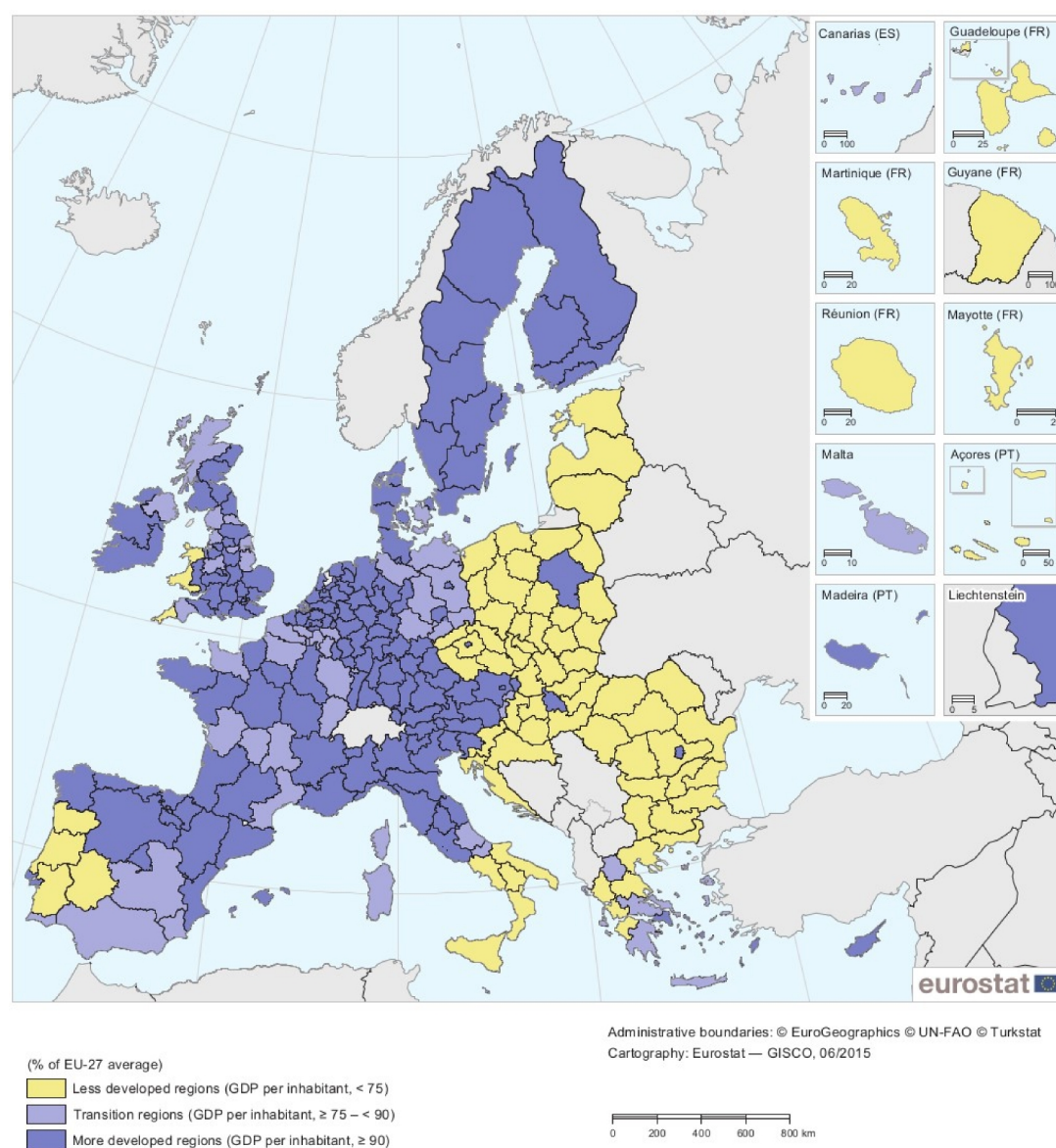
The regional dimension of Energy Union

The role of cohesion policy as the EU's main investment tool

Funding

Aimed at reducing disparities between regions to ensure a balanced economic, social and territorial development across EU's territory, cohesion policy is the main EU budget [investment pillar](#). The European Regional Development Fund (ERDF), the Cohesion Fund (intended for Member States whose GDP per capita is less than 90% of the EU average) and the European Social Fund (ESF) are its main delivery tools. Under the reformed EU cohesion policy for 2014-20, investments must be focused on key priority areas, known as [thematic objectives](#). As part of this 'thematic concentration', the ERDF [rules](#) for the 2014-20 programming period require [mandatory minimum spending](#) from Member States for the **low-carbon economy**².

Map 1 – Regional eligibility for structural funds, by NUTS-2 regions (% of EU-27 average)

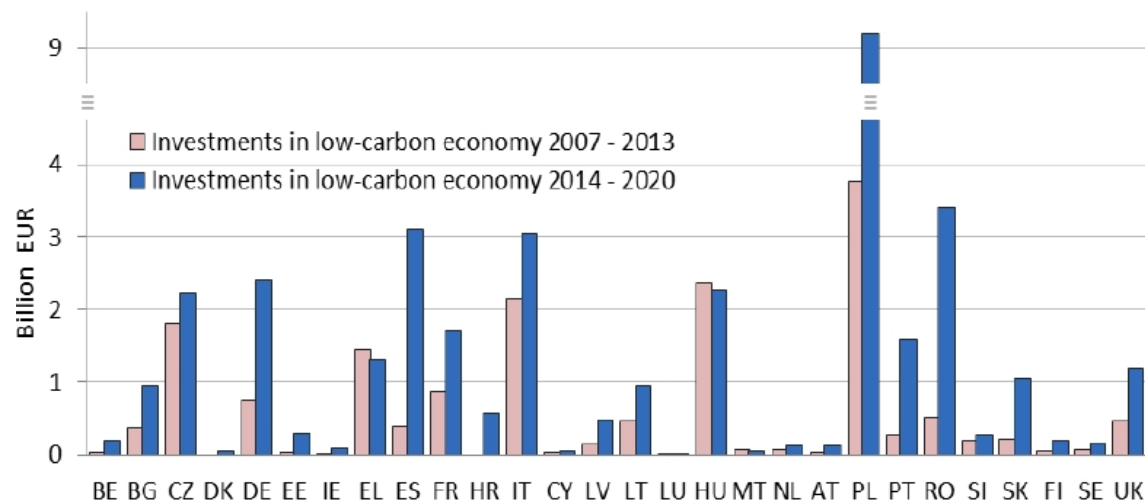


Data source: Eurostat, [Regional policies and Europe 2020](#), 2015.

The minimum proportion required corresponds to 20% of national ERDF resources in more developed regions, 15% in transition regions and 12% in less developed regions. Map 1 provides an overview of EU regional breakdown into these three categories.

Member States have gone significantly beyond this required minimum proportion, and [€38 billion](#) from the ERDF and the Cohesion Fund will be invested in the shift towards a low carbon economy during the 2014-20. It represents more than double³ the funding in this area compared to the previous programming period (see figure 1).

Figure 1 – Cohesion policy: doubling low-carbon economy investments



Data source: [European Commission](#), 2015.

Support under the low-carbon economy objective covers investments in energy efficiency, renewable energy, smart distribution grids and sustainable urban mobility, as well as research and innovation in these areas (in complementarity with [Horizon 2020](#), the EU's principal programme for funding research and innovation).

The European Regional Development Fund also provides support (estimated at some [€2 billion](#)), mainly in less developed regions, to remove bottlenecks in key network infrastructures, including smart energy distribution, storage and transmission systems, in complementarity with the EU's main instrument for investments in energy infrastructure, the Connecting Europe Facility ([CEF](#)). The CEF will allocate €5.85 billion to the trans-European energy infrastructure (TEN-E) in the 2014-20 period.

In accordance with EU funding rules, national public or private co-financing have to complement EU cohesion policy grants.

Energy projects supported by EU cohesion policy during the 2007-13 programming period

[Examples](#) include the United Kingdom's [Wave Hub](#) project, aiming to create the world's largest test site for devices generating electricity from wave power in Cornwall and the Isles of Scilly (total investment: €40.5 million, ERDF: €22.6 million); Lower Austria's [Green Building Cluster](#), drawing on passive housing and renewable energy (total investment: €3.4 million, ERDF: €937 400); the drilling of a 1 700-metre-deep well to thermal water, capable of supplying eight public institutions in the small Hungarian town of [Kistelek](#) (EU investment: €1.16 million); and Lithuania's public-building [renovation scheme](#) aimed at reducing energy consumption (total investment: €2.96 billion, Cohesion Fund investment: €2.7 billion).

Support for optimal cohesion funding use

In order to support regions and Member States to make optimal use of cohesion policy funding for sustainable energy projects, and, in particular, help them combine these funds with research financing, notably under Horizon 2020; the European Commission launched, in May 2015, the **European Smart Specialisation⁴ platform on energy** ([S3P-Energy](#)), set up by the Joint Research Centre (the Commission's in-house science hub). The platform will build on the work of the 'general' Smart Specialisation platform ([S3P](#)), established in June 2011 to assist and advise EU countries and regions in designing their research and innovation strategies for smart specialisation. Seventeen EU Member States and 158 EU regions are currently registered with the S3P platform. Over two-thirds of these have identified sustainable energy as their area of smart specialisation.

Smart specialisation is an innovation policy concept encouraging targeted and efficient use of public investment in research and innovation to enable regions to specialise in their field(s) of relative strength, and to build competitive advantages. The development of smart specialisation strategies requires analysis of regional assets and technology, and implies building partnerships between public entities, businesses, and research centres and universities. Having a research and innovation strategy for smart specialisation in place is a prerequisite to receive funding from the European Regional Development Fund.

S3P-Energy will thus work with interested regions and Member States, helping them share their expertise on sustainable energy investments and deploy innovative low-carbon technologies, as well as access information and exchange ideas. In particular, the platform will offer [support](#) in analysing regional investment priorities and needs in the areas of energy and smart specialisation; provide information on the opportunities for cohesion policy funding and guidance for their best possible use; help to identify good practices and encourage better take-up of cohesion policy funds through the launch of cooperative action to speed up the development and deployment of energy technologies.

Commission support for best cohesion funding use in the field of energy also includes the **Energy and Managing Authorities (EMA) network**, set up in March 2015. The network acts as an informal platform for cooperation and exchange of information, knowledge and practices among EU Member State authorities managing energy-related EU funds.

The potential of the EU's macro-regional approach

EU macro-regional strategies provide an integrated framework for cooperation between EU Member States and third countries located in the same geographically defined area facing common challenges. The four strategies established to date, which target the [Baltic Sea](#), [Danube](#), [Adriatic-Ionian](#) and [Alpine](#) regions, all have energy-related action pillars, within which various cooperation projects focused on sustainable use of energy or connection of energy networks and markets are carried out.

Enhanced regional cooperation within a common EU framework is explicitly encouraged in the Energy Union strategy, of which the Baltic Energy Market Interconnection Plan ([BEMIP](#), forming part of the 'EU Strategy for the Baltic Sea Region') is an example.

[Expert views⁵](#) exploring regional energy policy cooperation initiatives concur on their potential, notably as a means to reconcile EU energy market integration and national sovereignty over key areas of energy policy.

The urban dimension of Energy Union

Almost three quarters of the EU's population live in towns and cities, accounting for [70%](#) of EU energy consumption. Congestion, which costs Europe about 1% of GDP every year, is mostly located in urban areas. Actions at this level are therefore instrumental in achieving EU energy policy objectives.

Covenant of Mayors

The European Commission launched the [Covenant of Mayors](#) after the adoption of the 2020 EU climate and energy package in 2009, to endorse and support local authorities' efforts to implement sustainable energy policies. This Europe-wide movement is based on a voluntary commitment by signatories to meet and exceed the EU objective of cutting CO₂ emissions by at least 20% by 2020 through increased energy efficiency and development of renewable energy sources. The signatories (close to 5 900)⁶ represent cities varying in size from small villages to major metropolitan areas, and are supported by European, national and regional networks and associations of local authorities. The Joint Research Centre of the European Commission provides assistance with scientific and technical questions.

European Innovation Partnership on Smart Cities and Communities

European Innovation Partnerships ([EIPs](#)), part of the EU's [Innovation Union](#) strategy, seek to mobilise public and private actors at EU, national and regional levels, across the innovation cycle and across sectors, to speed up innovative solutions to societal challenges such as healthy living, climate change or energy efficiency. So far, five such partnerships, respectively dedicated to 'active and healthy ageing', 'agricultural sustainability and productivity', 'smart cities and communities', 'water' and 'raw materials', have been put in place.

Initiated in [2012](#), the European Innovation Partnership on Smart Cities⁷ and Communities ([EIP-SCC](#)) focuses on areas where energy, mobility and transport, and information and communication technologies (ICT) are intimately linked; and offer potential to improve urban services while reducing energy and resource consumption and cutting GHG emissions. The Partnership brings together city leaders, businesses, researchers and community representatives and provides them with a forum for the identification, development and deployment of innovative urban technology solutions. Work concentrates on specific aspects such as sustainable urban mobility; energy efficiency and low-carbon solutions; integrated energy, transport and communication networks; and the development of new business and funding models that can contribute to a fast roll out of innovative solutions on a large scale.

The Partnership seeks to pool resources to support the demonstration of energy, transport and information and communication technologies. Funding is awarded through yearly calls for proposals. For 2013, [€365 million](#) in EU funds was earmarked for demonstration projects. All demonstration projects financed under the scheme have to combine all three sectors covered by the Partnership (energy, transport and ICT).

The European Innovation Partnership on Smart Cities and Communities allows testing of innovation solutions with a view to possible scale-up and further replication in other cities across Europe.

Lessons learned and next steps

The Energy Union strategy integrates all the ambitions and objectives of EU energy policy to date, and can therefore capitalise on the various funds and initiatives already

in place. Cohesion policy will make a significant contribution to the achievement of the Energy Union's overarching goal of decarbonisation through increased support for investment in the transition towards a low-carbon economy.

The local and regional levels are actively involved in the practical delivery of EU energy policy ambitions. Useful lessons can be drawn from cooperation initiatives and networks in place at this level in view of a possible replication in other parts of Europe, contributing to further integration in the energy field.

The European Commission's first State of the Energy Union report is due to be presented to the European Parliament and Council in late 2015. The governance system of the Energy Union is currently [under discussion](#) in the Council.

The European Parliament is preparing reports on the three components of the Energy Union package: a [report](#) on the Energy Union, a [report](#) on electricity interconnection and a strategic [report](#) on a new international climate agreement at COP 21 in Paris, all scheduled to be voted in plenary in late 2015.

An [opinion](#) on the Energy Union package is also under discussion in the Committee of the Regions.

Further reading

Erbach G., [Energy Union – New impetus for coordination and integration of energy policies in the EU](#), European Parliamentary Research Service, March 2015.

European Commission, [How EU cohesion policy is helping to tackle the challenges of climate change and energy security](#), September 2014.

Wilson A., [Smart electricity grids and meters in the EU Member States](#), European Parliamentary Research Service, September 2015.

Endnotes

¹ According to recent data, the EU imports [53%](#) of the energy it consumes, and its external energy bill represents more than €1 billion per day (€400 billion in 2013). Dependency is particularly [high](#) on crude oil and natural gas. This reliance is expected to increase further, exceeding 90% for oil and 80% for gas by 2035.

² Other ERDF priorities include innovation and research; the digital agenda and support for small and medium-sized enterprises (SMEs).

³ In 2007-13, [€18.5 billion](#) of the ERDF and Cohesion Fund was invested in low-carbon themes.

⁴ For a more complete overview of smart specialisation strategies, their rationale and implications, see the [factsheet](#) published by the European Commission in March 2014.

⁵ De Jong J., Egenhofer C., [Exploring a Regional Approach to EU Energy Policies](#), CEPS Special Report 84, April 2014.

⁶ Data retrieved [from the Covenant of Mayors website](#) on 24 September 2015.

⁷ For a definition of smart cities, see the European Commission's [dedicated webpage](#).

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