

Mapping Territorial Cohesion

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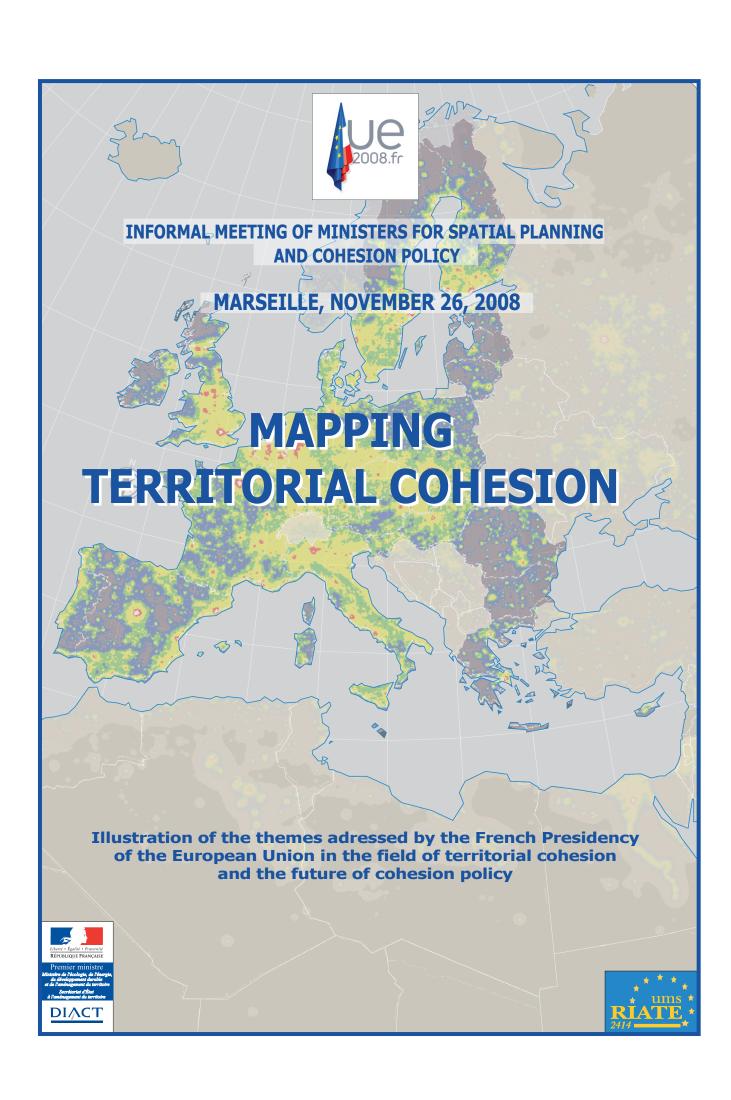
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MAPPING TERRITORIAL COHESION

Illustration of the themes addressed by the French Presidency of the European Union in the field of territorial cohesion and the future of the cohesion policy

INFORMAL MEETING OF MINISTERS FOR SPATIAL PLANNING AND THE COHESION POLICY

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FOREWORD

Territorial cohesion is the central axis of the consultation process organised by the French Presidency of the European Union with other Member States, the European institutions and the main European networks of regions and cities in the perspective of Informal meeting of Ministers for Spatial Planning and Cohesion Policy on November 26th, 2008 in Marseille. This work stands within the framework of the action program of the Territorial Agenda which was decided by the Ministers in November 2007 in the Azores, under the Portuguese Presidency. The further inputs to this process were provided by the Green Paper on territorial cohesion published by the European Commission on October 6th, 2008.

The objective of the current process is to work out a common approach of the concept of territorial cohesion, as an instrument to develop the policies that the European Union needs to promote a balanced and sustainable development of its territories, based on their diversity and on the exploitation of their assets. The concept has been approached and exemplified by focusing on three key themes among those identified as priorities by the Ministers in the framework of the Territorial Agenda, namely the development of rural territories, sustainable development strategy (in a climate change perspective) and the Lisbon Strategy. Additionally, territorial governance has been focused on specifically within this process, as a central aspect of territorial cohesion.

Finally, another objective of the French Presidency has been to further pursue the issues raised by the fourth Cohesion Report in June 2007 on the future of the EU economic and social cohesion policy. Territorial cohesion is closely connected to these policies. However it is also relevant for most major community policies with a territorial impact. This is why the Territorial cohesion is proposed as a third pillar of the Lisbon treaty.

The consultation process mentioned above was conducted by working groups established on the basis of the participation of representatives from about 20 Member States, major European Institutions and many networks, acting as experts. The reports delivered by these groups mid-September are the basis on which for the thoughts and proposals submitted to discussion at the Ministerial meeting in Marseille.

These issues at stake relate to territories and, by way of consequence, partly to geography. It therefore seems absolutely necessary to us to propose maps representing some of the phenomena that are analysed. The maps included in the present booklet illustrate some ideas and arguments presented in the reports of the working groups. While the headings correspond to the topics of the working groups, this booklet does not claim to be exhaustive. It must therefore be considered as a compilation of thematic zooms on various issues and challenges, without necessarily establishing direct links between the maps.

NB: Maps and texts do not necessarily reflect the opinion of the organisations from which they were elaborated, no more than that of the French EU Presidency. This document proposes at the same time knowed analyses and new approaches (maps and studies) in order to stimulate the reflexion.

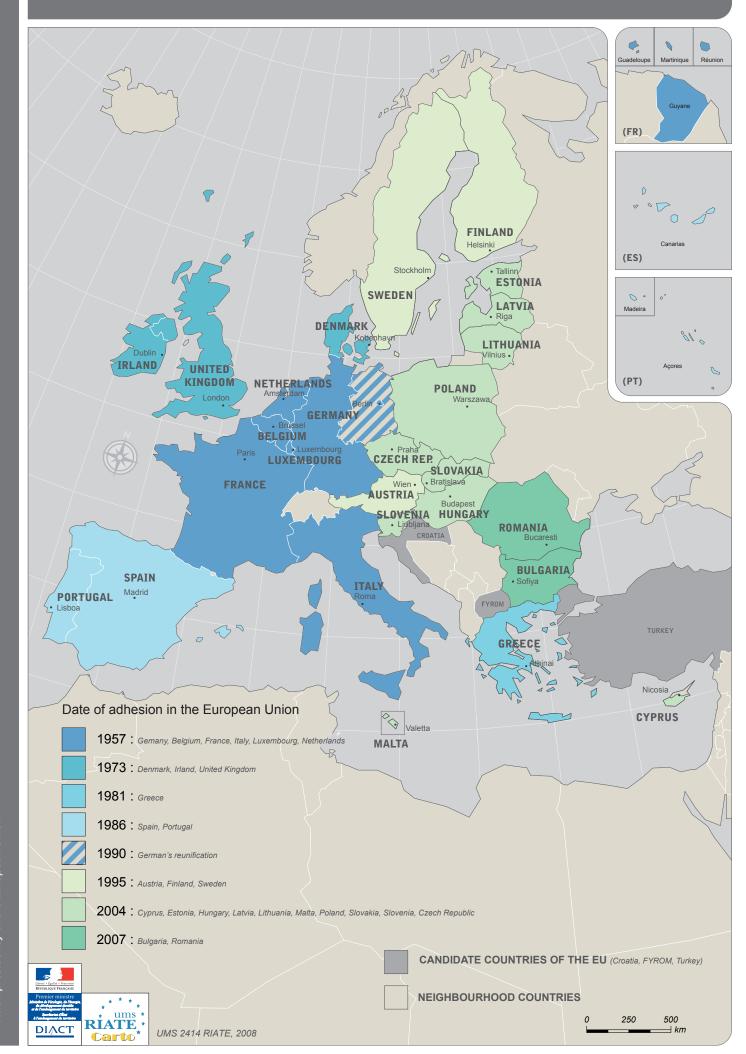
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European Union in the world, 2008



The 27 member states of the European Union, 2008

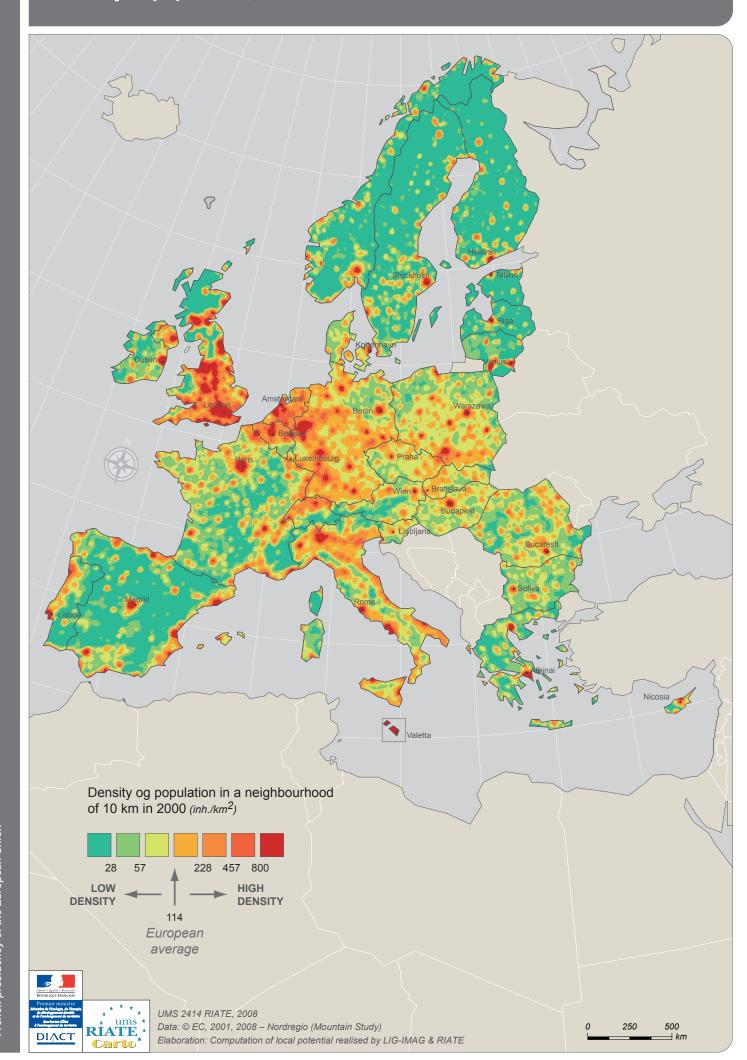


This map shows the distribution of population density of the EU at the local level for the year 2000. It was created on the basis of local data that where smoothed (mean value in a neighbourhood of 10 km). As compared with a map of regional density (NUTS2 or NUTS3), it reveals very strong heterogeneity of settlement structures in EU at local level.

- Areas in orange or red are characterised by a population density above the mean level of the European Union (114 inh. /km2). Areas with high population density are generally concentrated in the "Pentagon", in the coastal areas, along the main rivers or transport axis (Rhine, Rhone, Danube,...). But local peaks of high density can be observed in all regions of Europe and reveal the regular or irregular shape of urban networks.
- Areas in green are characterised by population density below the mean level of the European Union. The lowest population density are generally located in northern Europe (Sweden, Scotland) but can also be observed in mountain areas (Alps) or in deep rural areas. But it is also possible to observe local situation of low density inside regions or countries characterised by an average situation of high density.
- Development of policies in favour of regions with low density should therefore be handled carefully considering the variation of the scale-dependency of the variation of this phenomena.

References: European Parliament, Regional disparities and cohesion: what strategies for the future? PE 379.205, IP/B/REGI/IC /2006_201, May 2007. See in particular graphic 3.14 « Relative peaks of population density ».

Density of population, 2000



1 2 3 4 5

LISBON PROCESS

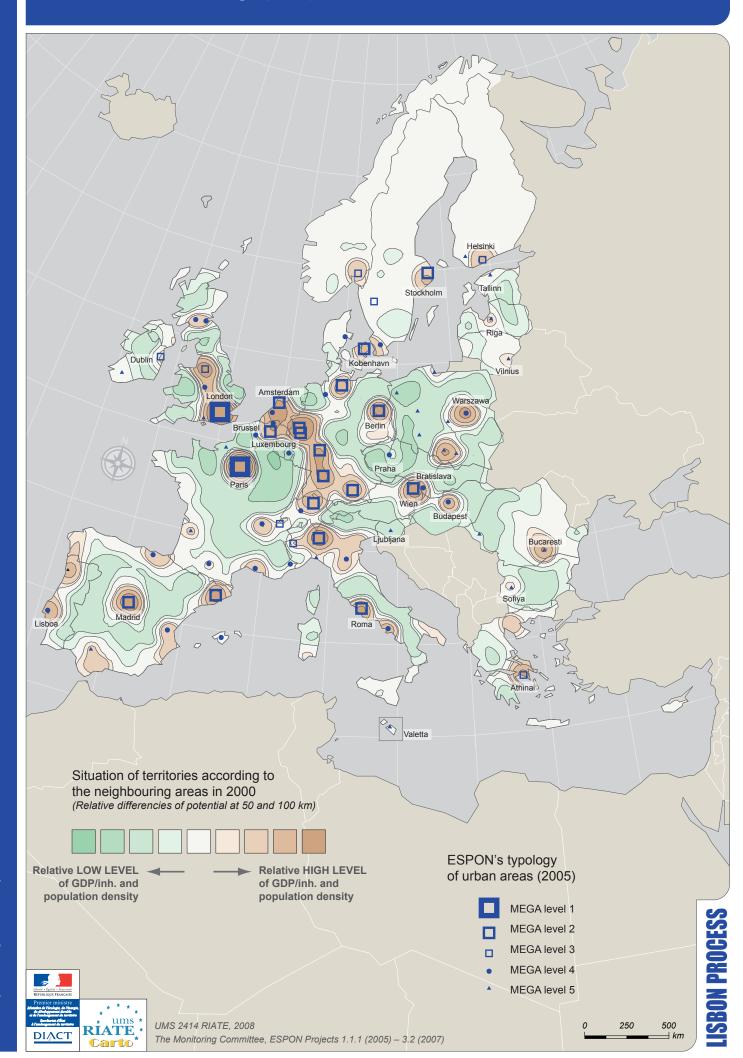
This map created as part of the ESPON Project 3.2 Scenario is based on the computating of potential of population and potential of GDP at different scales (between 50 to 200 km). Because of the use of smoothing techniques, the effect of national and regional borders is removed and it is possible to locate of transnational peaks of demographic and economic concentration and to evaluate their potential impact on neighbouring territories.

- Territories in brown are characterised are by a higher population density and/or higher GDP per capita as compared with neighbouring territories compared to other regions located in a radius of approximately 100 to 400 kilometers. For example, a clear peak can be observed around Bucaresti, because the neighbouring regions of Romania and Bulgaria are characterised by a lower population density and a lower GDP per capita. By comparison, the peak of Praha is very weak because this metropolitan area is surrounded at medium distance by territories with a higher population density and/or a higher GDP per capita (Germany, Austria)
- Territories in green are characterised by a lower density and/or a lower GDP per capita as compared with neighbouring territories. More precisely, these territories are located in the influence area of the economic and demographic peaks defined previously. For example, the north-eastern part of France is not a region with low population density and low GDP per capita in absolute terms. But it is surrounded by the greatest concentration of wealthy population of European Union (Paris, London, Randstad, Ruhr ...).
- Poles (in brown) are theoretically the most attractive territories under the assumption of competitiveness priority. But they can suffer from congestions and redistribute a part of their activity (production, residential ...) to the neighbouring territories located in their influence area (in green).

References: The Monitoring Committee, ESPON Project 3.2, Spatial scenarios in relation to the ESDP and EU Cohesion Policy, 2007, vol.2, pp. 40-45.

http://www.espon.eu/mmp/online/website/content/projects/260/716/index_EN.html

Economic and demographic polarisations, 2000



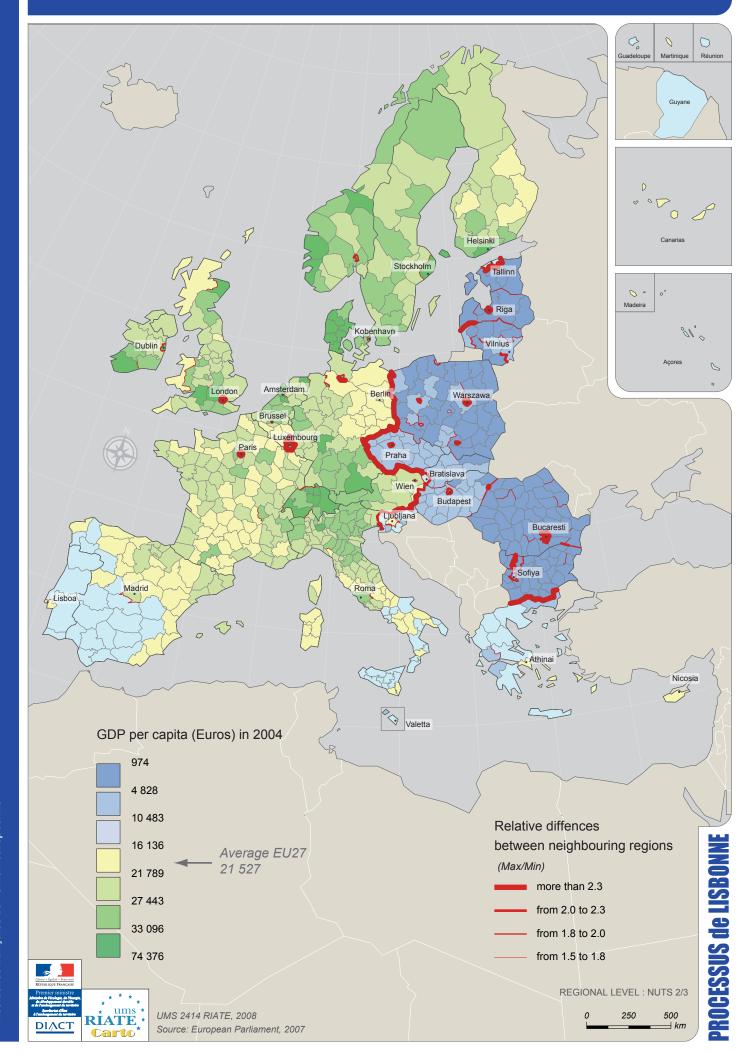
The revision of Lisbon Strategy should take into account the territorial dimension of economic disparities. The map of cross-border discontinuities of GDP per capita in euro at NUTS2/NUTS3 reveals the current extent of the gap between neighbouring regions of Old and New Member states. Except in Germany, this discontinuity follows exactly the line of the former iron curtain.

"Border discontinuities can be categorised into different classes. Important disparities exist between metropolitan areas and their contiguous regions. This is particularly the case in the former EU-15 countries, where Paris, London and Hamburg are the most extreme examples, but also in the NMS12 (Tallinn, Riga, Bucharest, and Warsaw). Places offering specific financial advantages, typically Luxembourg, also show large border discontinuities with their neighbours, in this case France, Belgium and Germany. (...) Nevertheless, the largest and most obvious disparities in relative terms can be found at the border between the old Member States (EU-15, including East Germany) and the New Member States, showing strong disparities in levels of economic development. This is particularly the case for the German-Polish, German-Czech and Austrian-Hungarian borders though it can even be observed at the border between Greece and Bulgaria. Behind its statistical measure, it is important to understand the problematic social and economic effects that can produce such disparities".

Extract from: Regional Disparities and cohesion: what strategies for the future?, Study realised for the European Parliament, coordinated by NORDREGIO, DG-IPOL, May 2007, pp 84-85.

References: European Parliament, Regional disparities and cohesion: what strategies for the future? PE 379.205, IP/B/REGI/IC /2006_201, may 2007. See in particular map 4.7 « GDP per capita (euros) in EU regions and main cross-border differences », p.90.

Interregional discontinuities of GDP, 2004



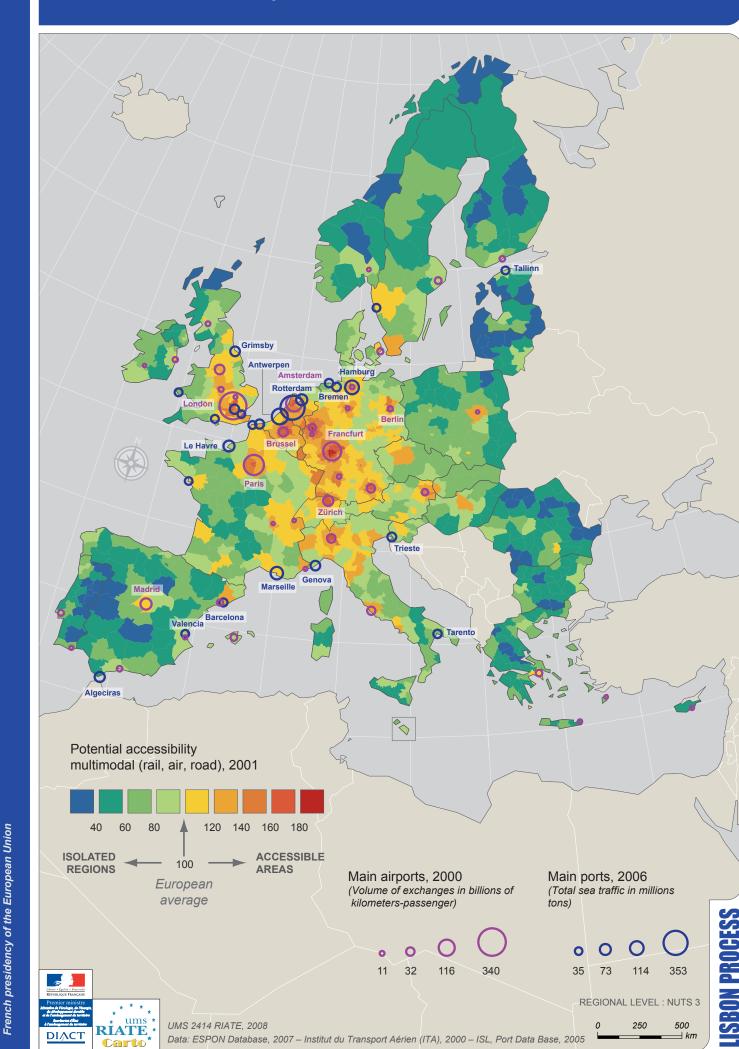
Internal and external accessibility of the European Union is a key factor of growth, employment and competitiveness in the European Union. "Connecting" Europe, through improved transport networks is one of the major goals set under the Lisbon strategy (3rd and 4th report on economic and social cohesion, European Commission, 2004). This map first presents, for each region, a synthetic measure of internal accessibility to the European territory (accessibility to population or GDP according to functional time - distance by air, road or rail). But it is completed by a measure of external accessibility with the location of gateway cities that are well connected to the rest of the World either by air or maritime connexions.

- Concerning **internal** accessibility of European territory (rail, air, and road) in 2001, the map highlights the great disparities between the central European regions (Pentagon) and peripheral regions. The territories coloured in orange / red are characterized by an accessibility higher than the average of the European Union (EU27 = 100). The regions represented in green are below the EU average and can be considered as peripheral in term of accessibility.
- Concerning **external** accessibility, main airports in terms of big distance connexions (passengers/kilometers) are strictly concentrated in the Pentagon (London, Paris, Frankfurt, Zürich) with the exception of Madrid, which develop specific links with Latin America. The greatest maritime gateways are organised in two main ranges: a first one from Tallinn to Le Havre and a second from Trieste to Algeciras.

References:

- (1) Measures of potential accessibility as been calculated by Klaus Spiekermann and Michael Wegener (S&W) or by Carsten Schürmann(RRG) fin various ESPON projects. In particular:
- The ESPON Monitoring Committee, Update of Selected Potential Accessibility Indicators, Final Report, Feb. 2007 (http://www.espon.eu/mmp/online/website/content/projects/947/1297/file_2724/espon_accessibility_update_2006_fr_07 0207.pdf)
- The ESPON Monitoring Committee, ESPON Project 1.2.1, Transport services and networks: territorial trends and basic supply of infrastructure for territorial cohesion, 2004
- (http://www.espon.eu/mmp/online/website/content/projects/259/652/index_EN.html)
- (2) Identification of main gateway cities for air transport has been realised by Claude Grasland and Nadine Cattan in ESPON project Europe in the World:
- The ESPON Monitoring Committee, ESPON Project 3.4.1, Europe in the World, Final Report, Dec. 2006 (http://www.espon.eu/mmp/online/website/content/projects/260/720/file 2640/fr-3.4.1-full_dec2006.pdf)
- (3) Identification of main ports is defined only with taking into an account the total sea trafic (millions tons), which advantages the petroleum ports. The results would be different if one considered the counteners trafic.

Multimodal accessibility, 2001

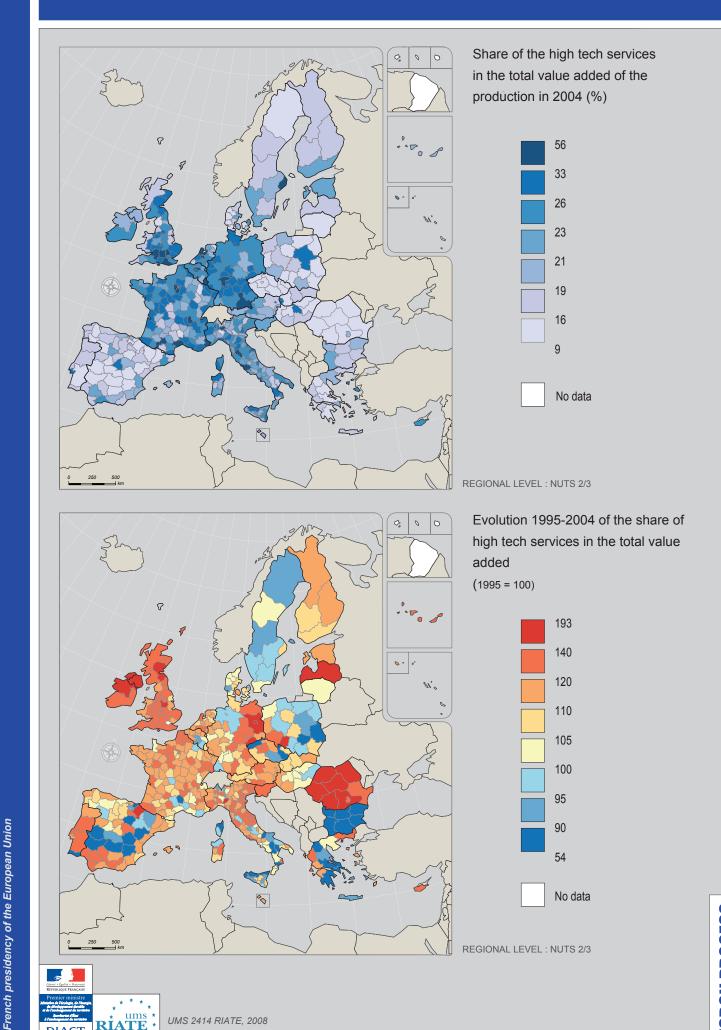


One of the axes of the renewed Lisbon Strategy is to ensure that knowledge and innovation become the driving of European integration. In the Lisbon process, the innovation challenge should be raised at different levels: European, national, regional and local. The uneven development of high tech services shows the strong diversity of regional situations in the European Union. The map is based on the regional level NUTS2-3 chosen by OECD and by the authors of the historical economic database of European regions (IGEAT, 2008). It provides a much better view of territorial dynamics of economy than official levels NUTS2 (too large) or NUTS3 (too heterogeneous).

- The first map on the share of high tech services in the value added of the production puts stresses a moderate thrust of these services in the regions of Central and Eastern Europe and in the Iberian Peninsula in 1995, except in metropolitan regions (Lisboa, Madrid, Budapest, Warszawa, ...)
- The second map shows the contrasted evolution of high tech services in total value added. A strong heterogeneity characterizes high tech services between a striking increase in the Romanian and Latvian regions and the most a reduced increase into the Bulgarian and Greek regions. The share of high tech services is generally increasing in the most advanced regions of North-Western Europe.
- Therefore, a slight convergence can be analysed. The growth rate from 1995 to 2004 has globally an inverse relation with the level of 1995.

References

VANDERMOTTEN, C. and P. MARISSAL (2000) « Une nouvelle typologie économique des régions européennes », Espace géographique, 4: 289-300.







REGIONAL LEVEL : NUTS 2/3

1 2 3 4 5

TERRITORIAL COHESION and GOVERNANCE

Cooperation and dialogue between different levels of governance are essential for territorial cohesion. In 1994-1999 programming period, a transnational dimension into cooperation programmes was launched by the Commission and allows to develop exchanges on targeted projects. The maps provide a picture of areas of cooperation inside UE and with neighbouring countries. Most of European regions belong to at least 2 or 3 transnational-cooperation areas.

Thirteen cooperation areas have been defined in cooperation the Commission and the States Members for the period 2007-2013. The diversity of these areas ranges from mountainous areas of the Alpine space to the Caribbean Islands. In order to increase cooperation inside and outside the external borders of the European Union, these programmes involve some neighbouring countries, in the Baltic area for instance. The programs co-financed by the ERFD, with the European Neighbourhood and Partnership Instrument (ENPI) in the Neighbouring Countries, and the State Members support projects in various fields. The main priorities are the following:

- Innovation, especially networks of universities, research institutions, SMEs;
- Environment, especially water resources, rivers, lakes, sea;
- Accessibility, including telecommunications, and in particular the completion of networks;
- Sustainable urban development, especially polycentric development.

References: More details on the website Inforegio on the pages related to transnational programs http://ec.europa.eu/regional policy/atlas2007/transnational/index en.htm

Transnational co-operation, 2007-2013







Interregional cooperation works at pan-European level, covering all EU-27 Member States + Norway and Switzerland. It creates networks to develop good practice and facilitate the exchange and transfer of experience from successful regions to the poorest one.

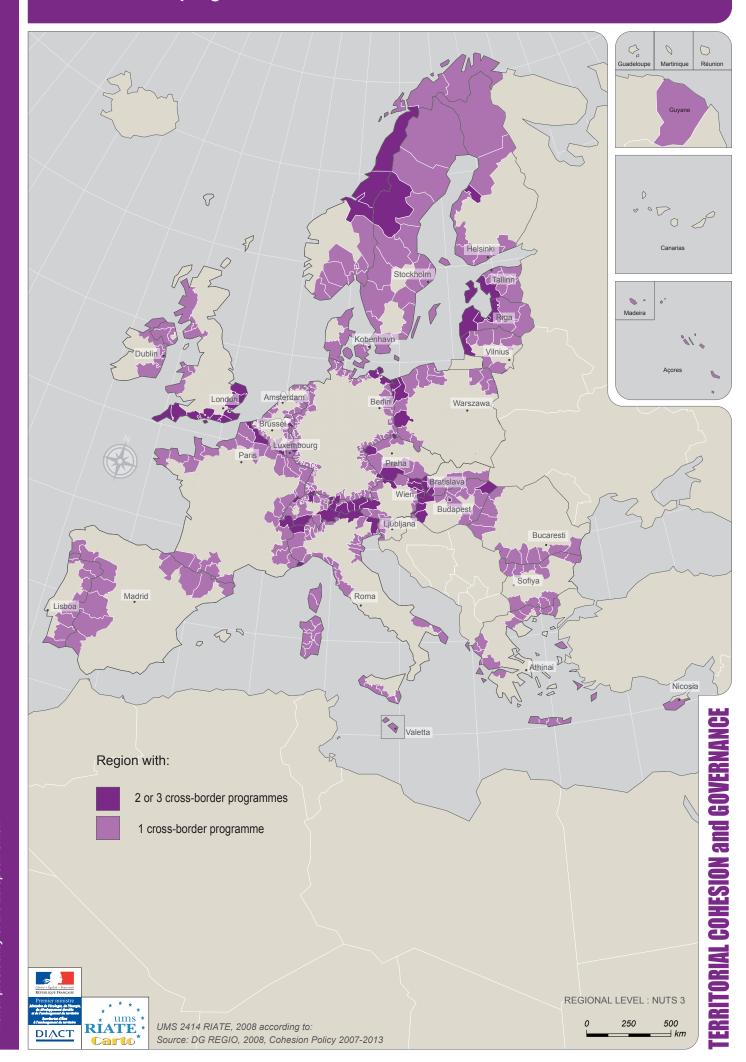
The Interregional co-operation programme (INTERREG IVC) enables EU regions to connect their work together. The aim of cross-border cooperation is to "filling the gaps". It does so through agreed cross-border 'analysis and response' strategies, formulated in each of the 52 cross-border programmes. It deals with a wide range of issues, including:

- Encouraging entrepreneurship, especially the development of SMEs, tourism, culture and cross-border trade;
- Improving joint management of natural resources;
- Supporting links between urban and rural areas;
- Improving access to transport and communication networks;
- Developing joint use of infrastructure;
- Administrative, employment and equal work opportunities.

It is interesting to observe that NUTS3 is officially used as a basis for the definition of these areas. In deed, the cross-border programs areas are very short in the country where the surface of NUTS3 is small (Germany, Netherlands, Belgium) and larger where NUTS division is bigger (France, Spain, Scandinavian countries).

References: more details on the website Inforegio on the pages devoted to cross border programs: http://ec.europa.eu/regional_policy/atlas2007/eu/crossborder/index_en.htm

Cross-border programmes 2007-2013

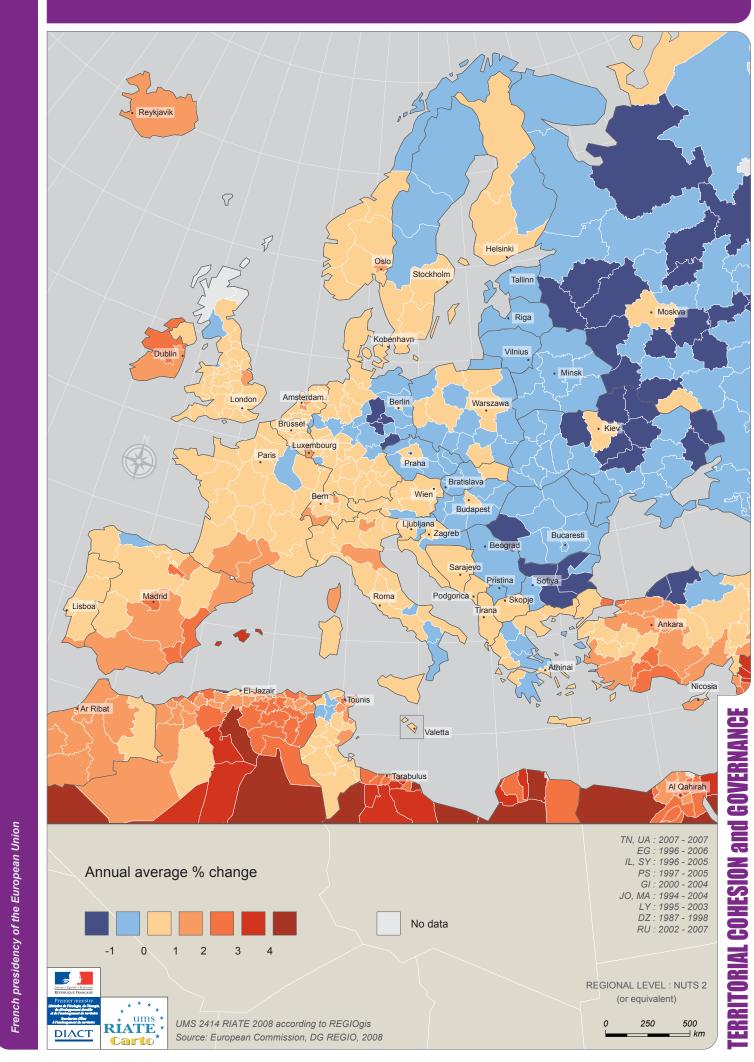


Territorial cohesion is about ensuring the harmonious development of all places and ensuring that their citizens are able to make the most out of inherent features of these territories. The inclusion of the principle of "territorial cohesion" aside the traditional objectives of economic and social cohesion shows the growing importance of the territorial dimension and the need for a better coordination of sector-based actions policies. The evolution of the population is a perfect illustration of this need of territorial cohesion because demographic decline is a global phenomenon that concerns at the same time economic, social and environmental dimensions.

- This map produced by DG REGIO shows the evolution of population in Europe and in neighbouring countires between 2000 and 2005. It shows the existence of a real difference between both parts of the European continent. Countries of the EU which present a positive evolution (coloured in orange red) are only among countries of the EU 15 and in countries of southern European neighborhood which appears as potential providers. Without immigration, European population would stagnate, or would decrease. It is the case in the central and oriental part of Europe where all the countries present a negative evolution of its population (in blue) and were the situation of neighbouring countries is still more dramatic (Russia, Ukraine).
- This map is an important symbol as it is the first official production of European Commission (DG Regio, Annex to Green Paper on territorial cohesion) that displays a precise vision of regional trends of neighboring countries both in eastern and southern direction.

References: DG REGIO, Commission Staff Working Document: annexes of the Green Paper on Territorial Cohesion – Turning territorial diversity into strength, 2008, page 23 (Map 13). http://ec.europa.eu/regional_policy/consultation/terco/paper_terco_annex.pdf

Population growth, 2000 - 2005

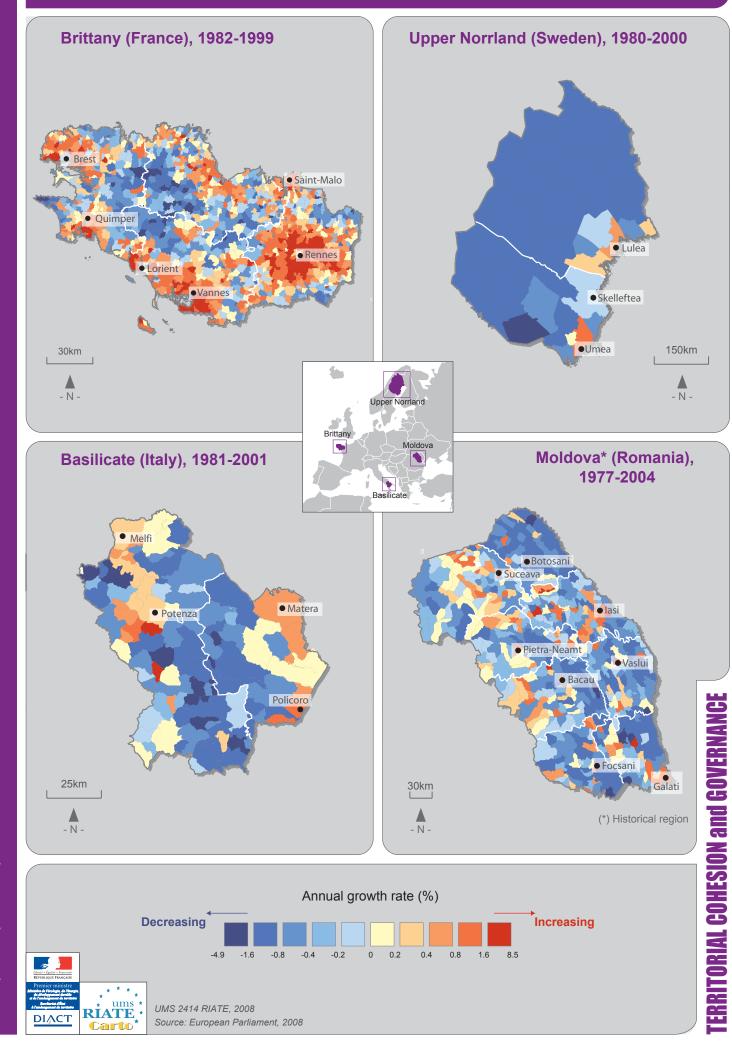


Taking into account the territorial dynamics at a local level allows for a more accurate and qualified understanding of the phenomena studied. The aggregate that form the NUTS 2 level hide often some complex realities which can be pointed out only in the intraregional perspective. To construct these analyses, it is nevertheless necessary to have an harmonised European database at the local level, which does not exist currently.

- Whether a region as a whole is experiencing population growth (Brittany) stabilisation (Northern Sweden) or demographic decline (Moldova, Basilicate), such population decrease essentially affects the rural zones that are isolated and sparsely populated. The large towns and cities, by comparison, often display a positive dynamism. The same applies to communities located close the major population centres, because of sub-urbanisation effect.
- Recent examples of depopulation have often involved areas that are already weakened, because of a loss of creative and innovative talent and a loss of capacity to react to change. In this case, depopulation phenomena compromise chances to develop of new attractive economic zones and imply necessarily a bringing of external labour-force whether national or international.
- The demographic decline is a major problem for territorial cohesion because it accelerates the desintegration of certain services and accentuates the inequality of access to the public services (health, education).

References: European Parliament, Shrinking regions: a paradigm shift in demography and territorial development, PE 408.928, IP/B/REGI/IC/2007-044, July 2008, fig.36.

Zoom on the decrease of population at a local scale, 1980-2000

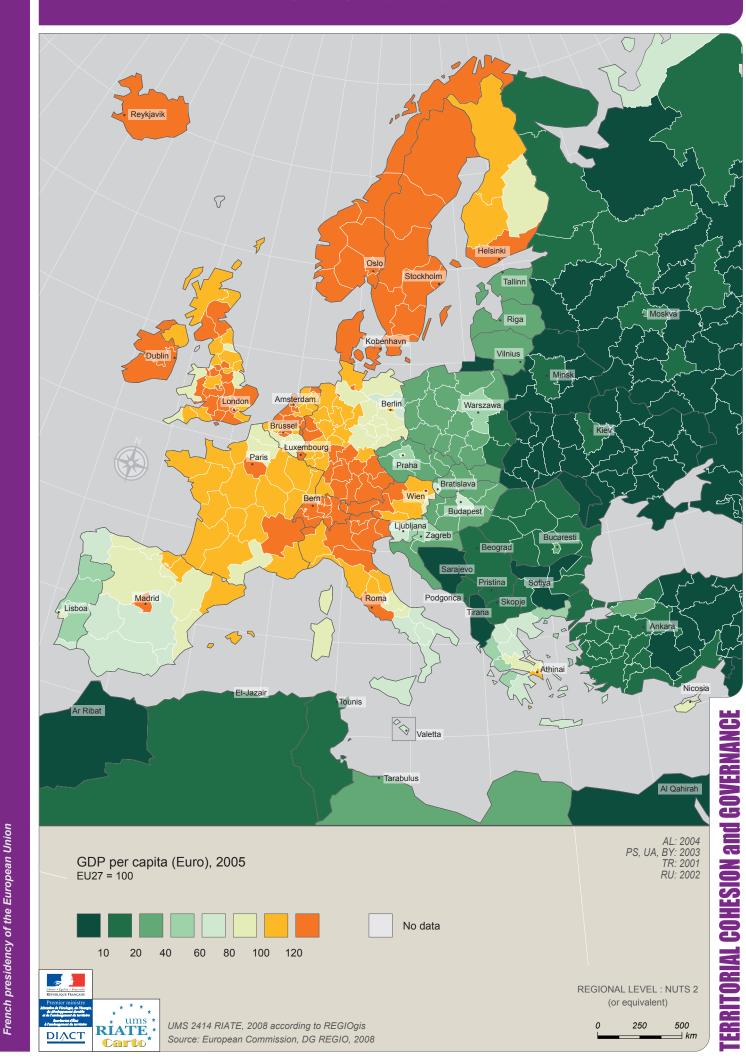


Because it measures the production level of a country, the Gross Domestic Product is one of the commonly used indicators in the European Union. In the context of Cohesion policy, the regional level gives an overview of disparities in the core of European Union and in neighbouring countries. Improving the efficiency of cohesion policy translates as integrating approach of European policy and better governance from local to Europe. The Gross Domestic Product per capita in this context is an instrument for measuring the effectiveness of Territorial Cohesion policy.

- This map produced for the Green paper on territorial Cohesion: "*Turning territorial diversity into strength*", represents the Gross Domestic Product (GDP) per capita (in Euros) by region in Europe, in countries bordering the Mediterranean Sea and in the countries of Central and Eastern Europe including Russia. Areas shown in orange are characterized by a GDP per capita above average of European Union (EU27 = 100). Conversely, regions shown in green are characterized by a GDP lower than the European Union average. The map shows a centre/periphery model: the further away a region is from the pentagon of the main metropolitan areas (London Paris Milan Munich Hamburg), the lower its GDP is, except for Nordic countries. It also can be noted that border regions of Southern and Eastern EU have a GDP (Euros) even lower.
- The presentation of Southern and Eastern neighbourhood is very interesting as it suggests that, in the future, more linkage could be developed between regional policy and neighborhood policy. It is indeed difficult to imagine that convergence of GDP per capita (or other criteria) could be realised on the whole territory of EU without partnership with regions located immediately outside.
- The use of GDP per capita in Euros increases the contrasts, generally slighted by the usual maps of regional policy in Purchasing Power Parity (PPP).

References: DG REGIO, Commission Staff Working Document: annexes accompanying the Green Paper on Territorial Cohesion – Turning territorial diversity into strength, 2008, page 22 (Map 12). http://ec.europa.eu/regional_policy/consultation/terco/paper_terco_annex.pdf

Gross Domestic Product per capita (euros), 2005



1 2 3 4 5

POLICY of ECONOMIC and SOCIAL COHESION

Introduced in the Single European Act of 1986, the policy of economic and social cohesion, whose sphere of activity extends over several areas including: infrastructure, employment or environmental preservation, is the spearhead of the reduction of regional disparities in Europe.

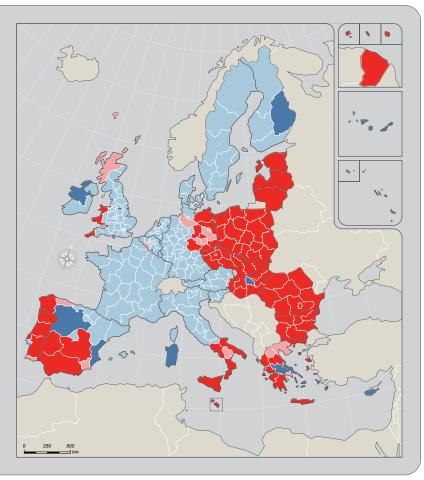
- · This map shows the distribution of structural funds by objectives for the programming period 2007-2013. Convergence regions (red), where the objective is to "promote growth-enhancing conditions and factors leading to real convergence for the least-developed Member States and regions" are characterized by a GDP per capita (SPA) lower than 75% of the EU average (EU27 = 100). This objective concerns 84 regions in 17 Member States, with 154 millions of inhabitants. Regions of Competitiveness and Employment objective (in blue) aim "at strengthening competitiveness and attractiveness, as well as employment". 168 regions are affected by this goal 314 millions people. Policy is the second budget of European Union with 35.6%, or 347 billions euros of funds out of a total of 863 billions euros for the programming period 2007-2013.
- In a context of EU enlargement, the evolution of the Structural Funds (ERDF and ESF) allocated by the four countries on programming periods of cohesion policy since its reform in 1988. With globalization and of widening gaps at the subregional level, this map shows the importance of maintaining the political cohesion especially in regions that have recently joined the European Union.

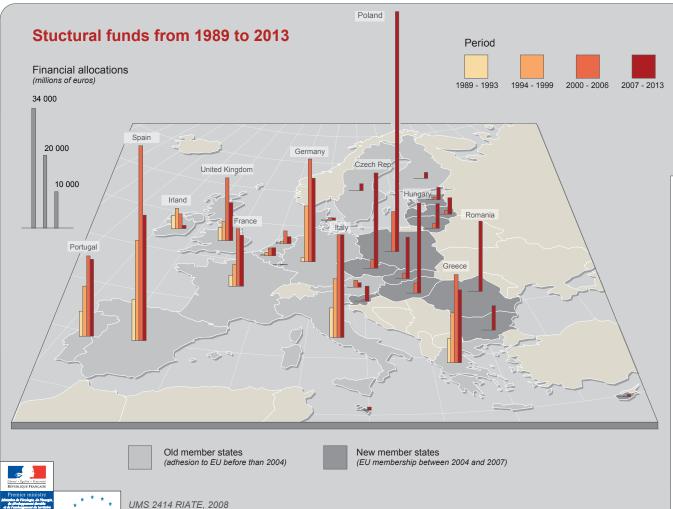
References: Inforegio, http://ec.europa.eu/regional_policy/funds/feder/index_en.htm Budgetary executive of the European Union, on 2007-2013, to see: http://www.bureau-alsace.org/opencms/opencms/bureau-alsace/fr/fiche_programme/cadre_bugetaire.html

25

Regional policy, 2007-2013

Convergence regions Phasing-out regions Phasing-in regions Competitiveness and employment regions Share of the cohesion policy on the total budget of EU, period 2007 - 2013 The EU as a global player (5.7%) Citizenship, reedom, security and justice (1.3%) Natural resources: agriculture, environment, and fisheries (42.9%) Total: 863,3 billions





Data: DG REGIO - Bureau Alsace

Sources: Gauthier A., La construction européenne, Bréal, 2003, p.202

DIACT

Carto

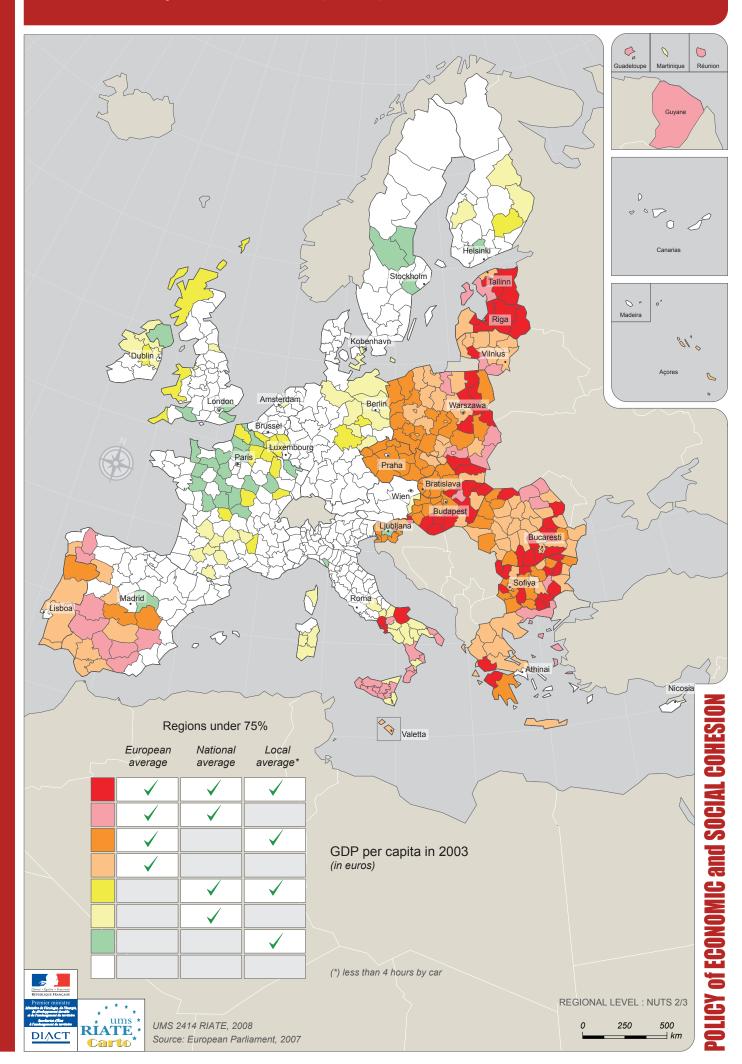
In December 2005, when the Member States agreed upon the budget for the 2007-2013 programming period, the threshold of 75% of the EU GDP (PPP) average at NUTS2 level was used when deciding the levels of financial support available within the context of the Structural Funds. However, all of the regions characterised as disadvantaged from the European point of view do not in fact share the same degree of 'backwardness' as some may be rather prosperous in the national or regional context. A territorially differentiated type of Regional policy would ensure that regions get a fairer distribution of financial support.

- Established at a more detailed territorial level than the one of regional policy (NUTS2/3 instead of NUTS2) and using GDP at current price (euros rather than PPP) this synthetic map shows that in almost all EU-27 countries there are regions defined as "lagging". Indeed, the map does not focus only on regions located under the threshold of 75% of EU mean (global deviation) but take also into account the regions under 75% of the mean of the country they belong (national deviation) or 75% under the mean of neighbouring regions located at less than 4 hours by road (local deviation*).
- The regions that are under 75% for all three deviations (coloured in red), are generally located in new member states, especially near the border with non-EU countries such as Belarus, Russia or Ukraine. The whole of Estonia and Latvia, with the exception of their capital regions, belong to this category. There are also a few regions in the former EU-15 countries that belong to this category, and these can be found, in Southern Italy and in the South-Western parts of Greece.
- Even with an incomplete criterion like the threshold of 75% of GDP per capita, it is certainly possible to define a more targeted regional policy through the multiscalar evaluation of disparities in different territorial contexts.

References: Europeean Parliament, Regional disparities and cohesion: what strategies for the future? PE 379.205, IP/B/REGI/IC /2006_201, may 2007, map 4.8.

(*) The calculation of the local deviation is impossible for peripheral regions (Islands, Nordic regions), because they don't have neighbouring regions below the threshold of 4 hours.

Multiscalar synthesis for GDP per capita, 2003

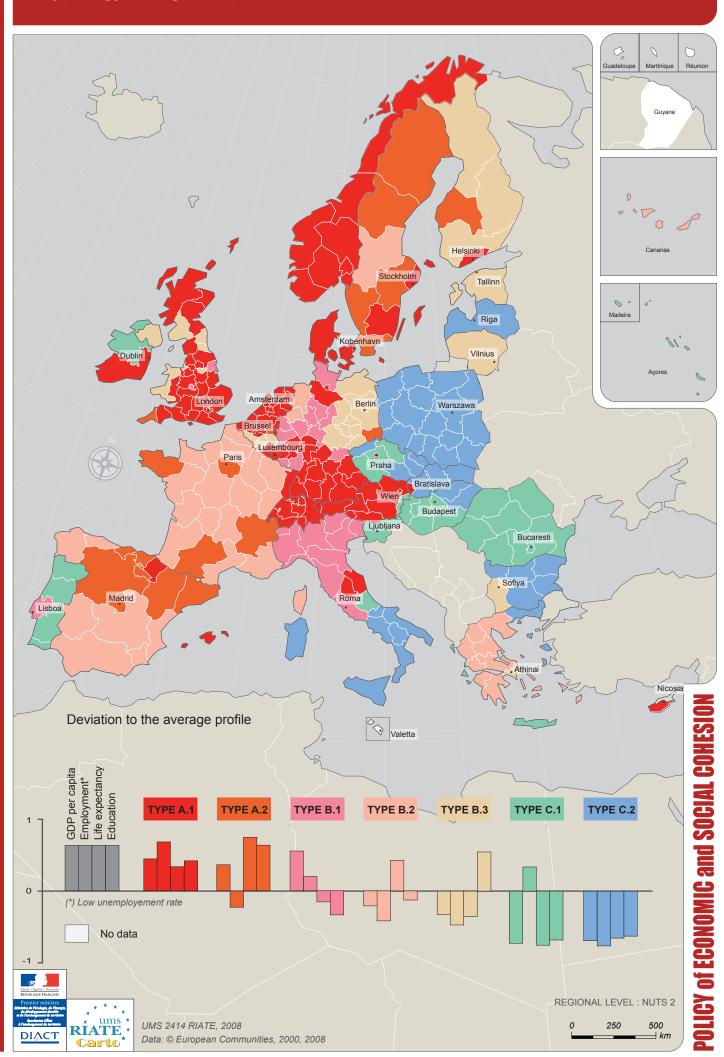


Analysing regional disparities with indicators other than those of a purely economic nature highlights the varying spatial distribution of 'lagging' regions. A more holistic perspective on what regional development entails (economic, social, demographic, environmental, educational and other dimensions) improves our understanding of the real extent of structural disparities in Europe.

- In order to overcome the classical criteria of GDP/capita or Unemployment rate, much recent research (ESPON, OECD, DG-REGIO) has tried to elaborate synthetic indexes of regional development based on the weighted mean of various criteria. But this synthetic indicator introduces a false assumption when they consider that a weakness on one criterion can be balanced by strength on another one. Indeed, what is really at stake here is the elaboration of a sound scientific basis for designing a territorially differentiated Regional policy, not only taking into account the overall level of performance of the regions, but also their specific strengths and weaknesses. For this purpose the best solution is the use of objective classification methods applied to a limited number of regional indicators producing easily understandable regional typologies.
- A recent European Parliament study demonstrates how it is possible to classify regions in seven groups based on the combination of criteria of economic competitiveness (GDP/capita, unemployment), social cohesion (life expectancy) and invest in the future (education). This typology does not hierarchise regions and helps to elaborate "taylor-made" policies where it is possible to push the strength or the regions and to identify their weaknesses.
- As example, the regions of type B.1 are characterised by good performances as compared with classic criteria (high GDP per capita, low unemployment rate). However these regions are also described by a life expectancy below the EU average and a relatively low level of education.
- On the contrary, the regions of type B.2 are defined by lower economic performances than the previous one but present relative good scores in the field of life expectancy and formation as compared with EU average.

References: European Parliament, Regional disparities and cohesion: what strategies for the future? PE 379.205, IP/B/REGI/IC /2006_201, may 2007. See Figure 4.12. « Typology of the performances of regions » and pages 97-103.

Typology of regional performance, 2000



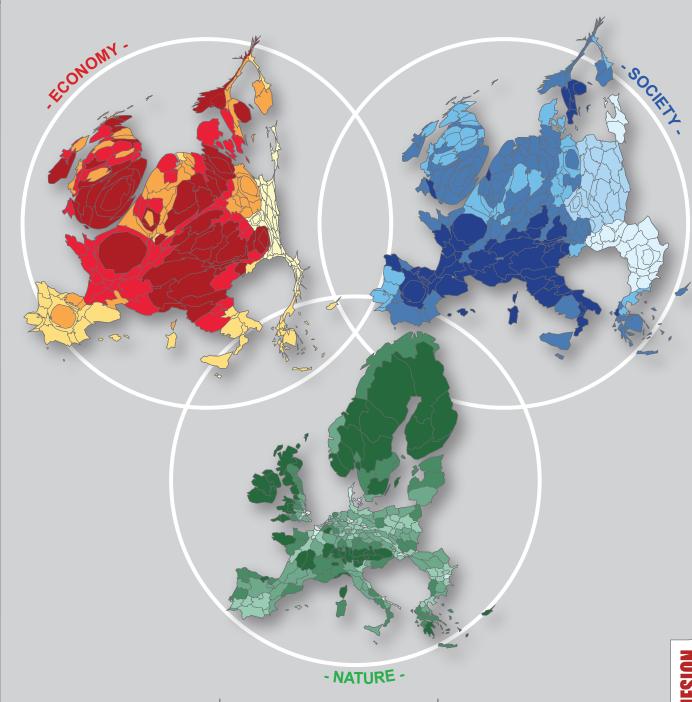
French presidency of the European Union

Geographical maps are mental representation of realities that can never be defined in a fully objective way. For example, a classical map of EU regions at the NUTS2 level can give the visual impression that some regions are very important because they are characterised by a large amount of land area (Norrland in Sweden, Castilla in Spain ...). On the contrary, some metropolitan regions are difficult to see on these classical maps because there area is very small (Inner London, Brussels capital, Hamburg, Bremen, Bucuresti,). It is therefore of high interest to propose alternative representations where the visual importance of regions is proportional to different target criteria.

- The three maps correspond to different visions of European regions according to three different perspectives: economic, social or environmental. The areas are proportional to GDP in the economic field (map in red/yellow), to population in the social field (map in blue) and to natural surface (map in green).
- The change of regional size based on different criteria (GDP, population and green surface) clearly reveals that the weight and potentiality of regions and territories change according to these thematics. Taking into account economic, social and environmental dimensions at the same time could makes easier a harmonious and sustainable development in the prolongation of the ESDP.
- The mapping choices are not anecdotal: there are also policy messages. These three maps show the hypothesis that all regions have at least some stength advantages that can be further developed for the benefit of the European Union as a whole.

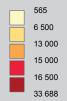
References: European Parliament, Regional disparities and cohesion: what strategies for the future ?, PE 379.205, IP/B/REGI/IC /2006_201, may 2007, See in particular, graphic 4.13, « Three visions of Europe ». European Parliament, Shrinking regions: a paradigm shift in demography and territorial development, PE 408.928, IP/B/REGI/IC/2007-044, July 2008, for data related to healthy life expectancy in 2005

3 visions of Europe, 2000-2005



ECONOMY

■ Income/inh. in 2003 (in euros)

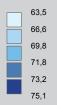


GDP (in euros)

Areas are proportional to GDP in euros in 2003 at nuts2 level.

SOCIETY

Life expectancy in good health in 2005

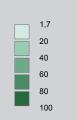


■ Population (inh)

Areas are proportional to population in 2004 at nuts2 level.

NATURE

■ Green index* (%)



* Green index: computed from GLC2000 V2.

All surfaces exept cultivated and managed areas, bare areas, water bodies, snow and ice, artificial surfaces and associated areas, accordind to the LCCS

> ** Green surface = Green index * Area

■ Green surface**

Areas are proportional to green surface at nuts2 level.



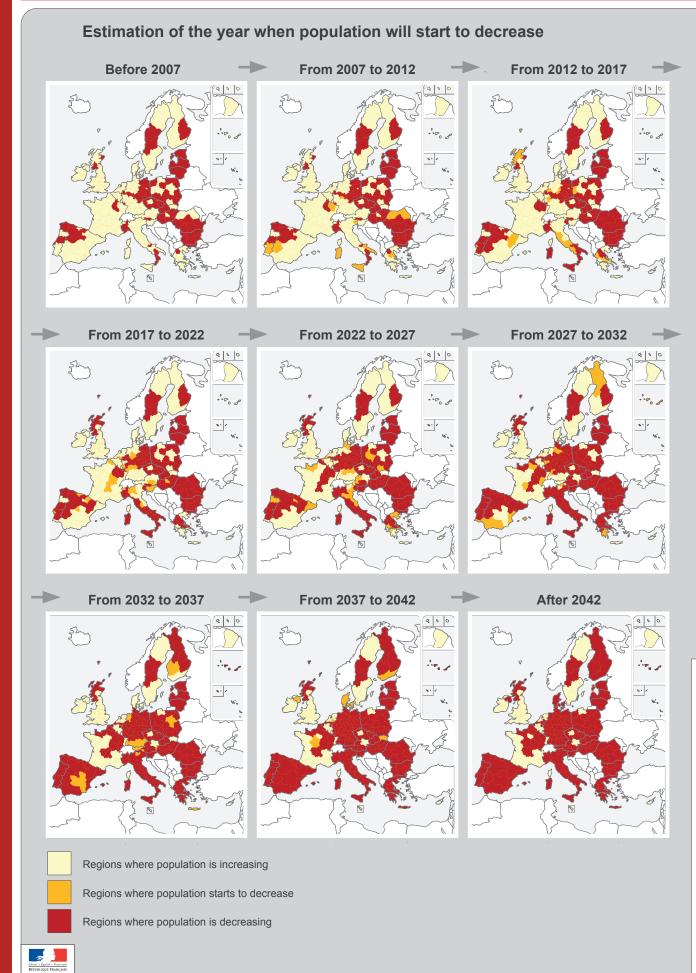
French presidency of the European Union



Cohesion policy has not explicitly addressed the issue of 'shrinking regions' phenomenon. With the 1988 reform of the Structural Fund's the European Union targeted as an absolute priority the 'catch-up' problem facing the poorer regions, and in the current situation of post-enlargement this remains a key priority for the period 2007-2013. Indeed if we take the 84 regions that are included in the convergence category we find that a large majority of them are affected by problems linked to demographic decline.

- Maps plotting probable dates for the start of population decrease in European regions suggest the existence of a process of spatial distribution of demographic decline (shown in red on the map) around those regions that are currently affected by the phenomenon. In a situation of limitation on Extra-European immigration such a process of distribution of decline seems logical when we accept that a region that is economically dynamic but surrounded by ageing regions in demographic decline will find it increasingly difficult to attract labour and younger population in the future.
- In 2007, the decrease of population is mainly a concern for regions of New Member States (except Malta and Cyprus). But this phenomenon of population decline will spread in few years toward Finland, western and southern Germany, Austria, Italy, Spain and the north-east of France. The regions that are expected to resist demographic decline longest are located in Ireland, the United Kingdom, Belgium, Sweden and the Netherlands, along with the south-west of France and the Paris region. To this we can add some of the islands of Mediterranean (Cyprus, Malta, and Corsica) and various isolated cities such as Vienna and Prague.

References: European Parliament, Shrinking regions: a paradigm shift in demography and territorial development, PE 408.928, IP/B/REGI/IC/2007-044, July 2008. See in particular figure 16 and chapter 3 about the demographic mechanisms of depopulation.



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ENERGY and CLIMATE

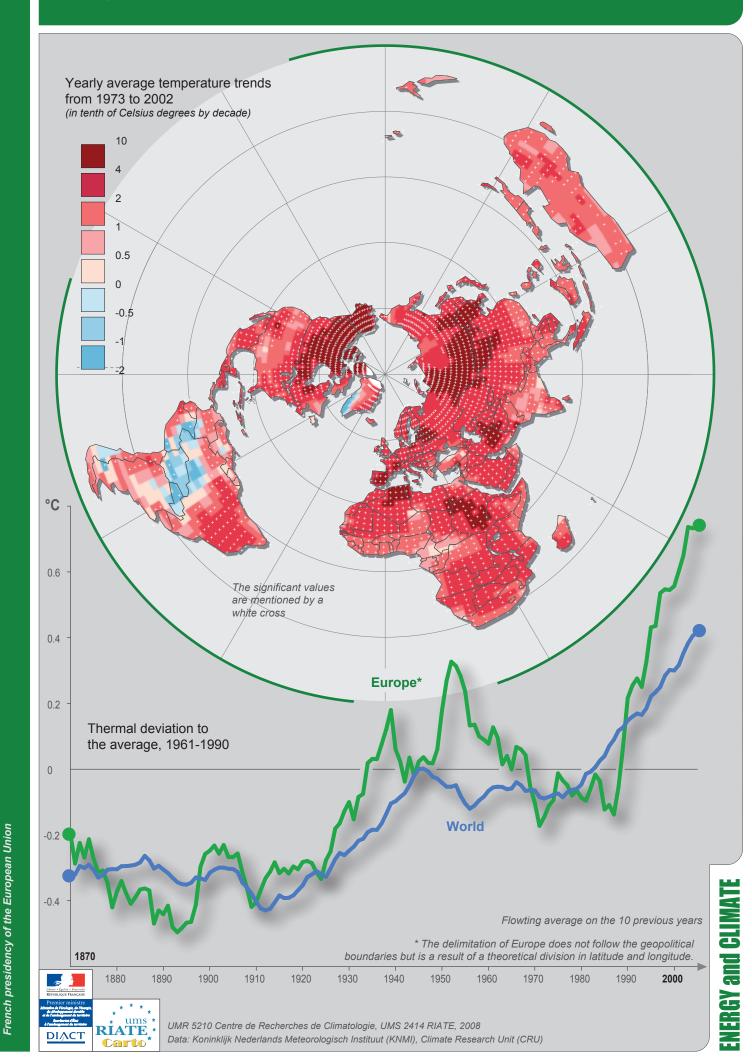
Because of the increasing concentration of greenhouse gas in the atmosphere, the average temperature has significantly increased at world level during the 20th century, especially between 1919 and 1945 and after 1976. Global warming is quite appreciable in the northern hemisphere at high and medium latitudes. The European Union should be particularly concerned by this trend.

- The map represents only annual average: such a method smoothes the seasonal variations. The most concerned regions of Europe by the increase of average temperatures are the Iberian Peninsula, the northern part of Eastern Europe and the south-eastern past of France.
- $^{\circ}$ Beside the warming, southern Europe already undergoes significant rain deficits (- 20 % in some regions) when northern Europe has experimented important increase (+10 to +40%)
- $^{\circ}$ The graph compares the warming at European and at world levels. Since the 19th century, the warming has been more rapid in Europe than the world average: + 0.8° C for the former, + 0.6° C for the latter over the 20th century.

References: Atlas de l'Europe dans le monde, La Documentation française, to be printed , part V. « Qualité de vie », Chapitre « environnement et développement durable ».

Mitchell, T.D., Carter, T.R., Jones, P.D., Hulme, M., New, M.: A comprehensive set of high-resolution grids of monthly

Temperature evolution in the world, 1973-2002

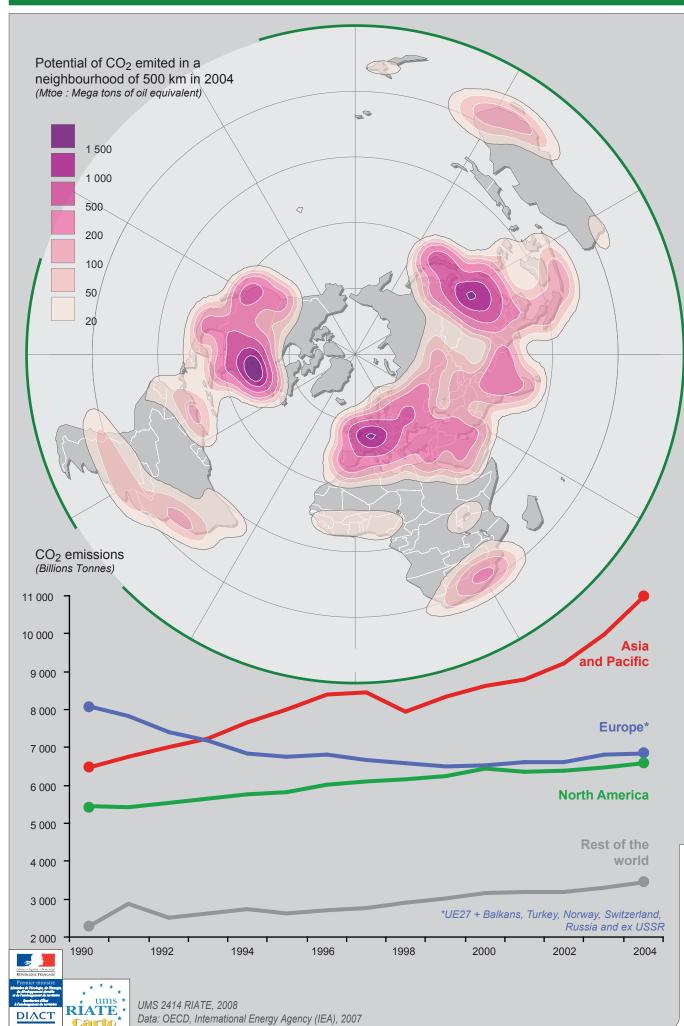


This map is based on the computation of potential of CO_2 emissions at a distance of 500 km. It evaluates the local situation of territories as compared to the neighbouring areas. For instance, the CO_2 emissions exceed 1,500 millions of tons of oil equivalent a year at a distance of 500 km around each point in the areas coloured in dark red.

- The geography of CO_2 emission looks like the geography of wealth and production at world level. The map roughly highlights the importance of the countries of the so-called Triad, of emerging countries and generally of the most densely populated regions in the world. The European Union is one of the first origins of CO_2 emissions, especially its most populated part. The annual emissions gradually decrease when one proceed to the peripheries of Europe but remains high in Russia and the Persian Gulf.
- ullet The graph shows the steady increase of CO $_2$ emissions in Easter Asia since 1990. Conversely, the emissions have been decreasing in Europe and slightly increased in Northern America. These two regions have made real efforts to harness their emissions. But this good performance is partly due to the resettlement of a part of their manufacturing industries in Eastern Asia (outsourcing).
- $^{\circ}$ In deed, the decline of CO $_2$ emission can't be solved at State or EU level. This implies define some ambitious targets at world scale or, at least, by big areas such America, Europe-Russia-Persian Gulf, Asia and Pacific etc.)

References: GRASLAND, C., 2001, "Essai de représentation cartographique des émissions de CO_2 dans le monde vers 1985: problèmes cartographiques et enjeux politiques", Annales des Mines, coll. Réalités industrielles, 15 p.

CO₂ emissions in the world, 2004



The performances in term of reduction of CO_2 emissions are very heterogeneous within the European Union, by states and by sector.

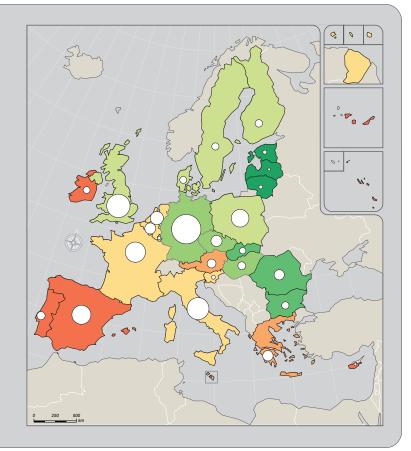
- $^{\circ}$ The main map represents the CO $_2$ emissions in 2005 and its evolution from 1990 to 2005. The European Union is roughly divided into two regions. In the Southern and western EU Member States, the CO $_2$ emissions have increased (yellow and orange). This is partly due to rapid economic growth of countries like Spain and Ireland. In the other Member States, emissions have decreased (green). This is partly due to political efforts made by some countries. But the main reason is the outbreak of the socialist regimes and the subsequent economic crisis.
- The sectoral approach of the evolution of CO_2 emissions reveals that energy production, transports and industries are responsible for major part of CO_2 emissions in European Union. Emissions have decreased in most of the Central and Northern Europe countries. However, there are still many efforts to do in the field of transports in almost all member states.

Evolution of CO₂ emission, 1990-2005 (annual growth rate, %)

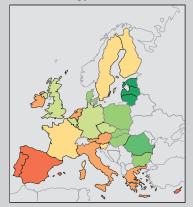


CO₂ emissions in 2005 (Thousands tonnes)





Energy industries



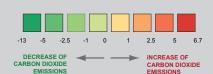
Manufacturing industries



Sectoral approach of the CO₂ emission

evolution

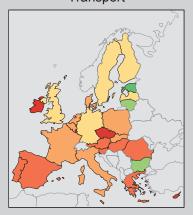
Evolution of CO₂ emission, 1990-2005 (annual growth rate, %)



Residential



Transport



Origin of CO₂ emission in EU27, 2005



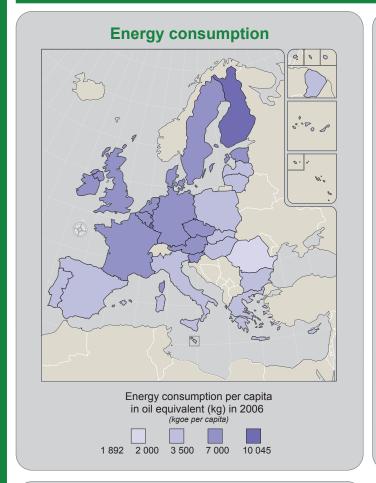


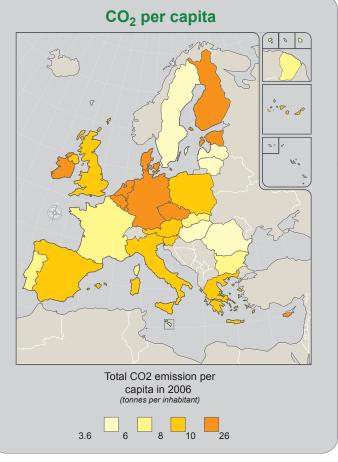


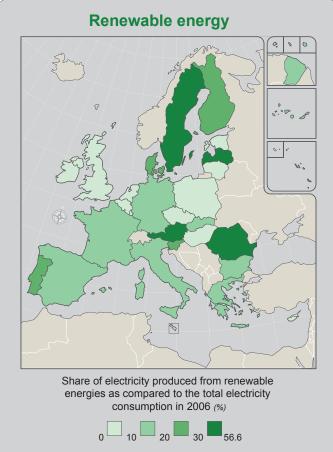
These maps provide different information about choices made by Member States in sustainable development and environmental conservation. Their performances are quite unequal.

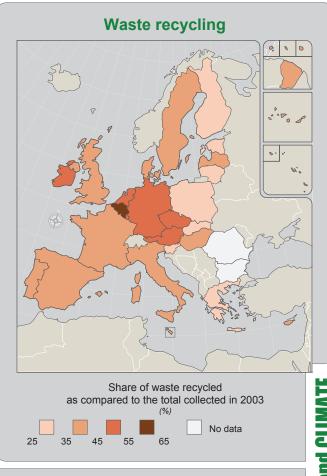
- The energy consumption per capita is an interesting data although it is influenced by several factors: climatic context, economic situation, etc. In the Southern and Eastern Member States, the consumption per capita is relatively low. Meanwhile, in Central, Northern and Western Member States, consumption is higher.
- There is no clear correlation with map of CO2 emissions per capita in 2006. Emissions are particularly high in Germany, in neighbour States of Germany and in Northern Europe.
- As far as share of renewable energies in electricity consumption is concerned, performances of Member States are unequal. This map shows that Member States are not all strongly committed the development of non fossil fuels.
- When it comes to waste recycling, the largest efforts are being made by Germany and its neighbouring States as well as Ireland. Conversely, many New Member States, as well as Greece and Finland, are clearly lagging behind.

Energy and climate issues, 2006









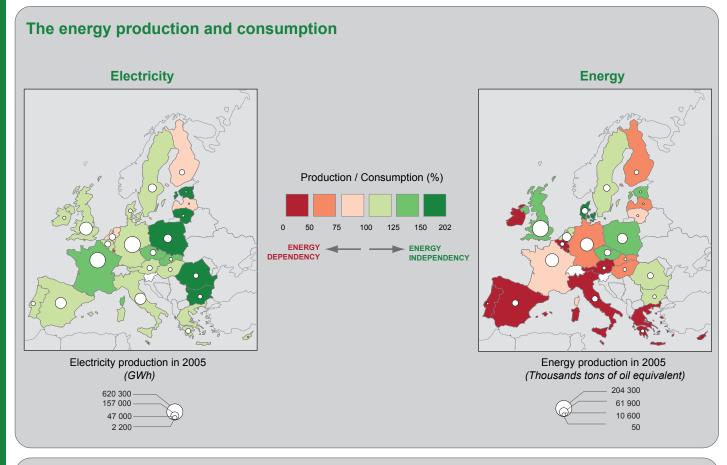


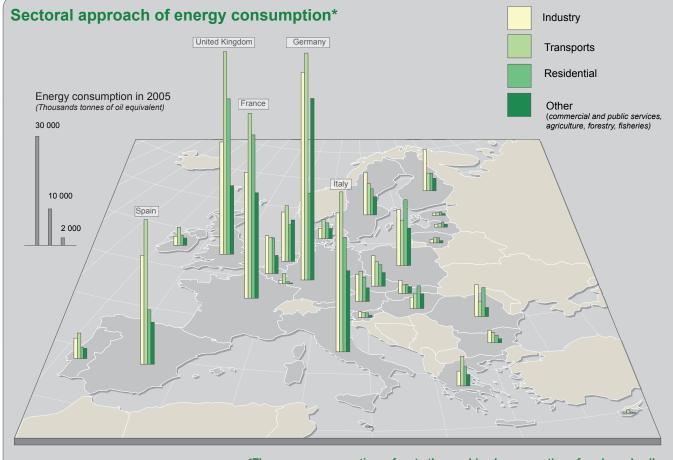
French presidency of the European Union

REGIONAL LEVEL: NUTS 0

Energy is related to major environmental, economic and political challenges. A too important energy dependency is considered as a risk factor for states that tries to find individual solutions. But the most efficient strategy is the enhancement of a global policy at the scale of European Union and neighbouring countries. It is also important to evaluate the contribution of each sector(transport, industry, households) in energy consumption and to avoid a focus only on one of them.

- As a whole, European Union is far from independence in terms of energy consumption. Only very few countries has a production of energy greater than consumption because of exploitation of resources of coal (Poland, Czech republic) or oil and gas (UK, The Netherlands) or because of the development of nuclear plant (Bulgaria) or renewable energies. The highest levels of energy dependency are observed in the Mediterranean countries, in Belgium and in Ireland.
- The situation is much better if one considers only electricity, as most EU countries are characterised by a production exceeding the consumption and are net exporter of electric power. The only exceptions are Latvia, Finland, the Netherlands and Luxembourg.
- The division of energy consumption by great sectors demonstrates that transport is the first user of energy in biggest countries of western Europe (France, Germany, UK, Italy, Spain). The first sector is industry in Nordic countries and most of the New Member States. Households are also important consumers of energy, in particular in Poland and Germany where their share is greater than the one of Transport or Industry.





*The energy consumption refers to the combined consumption of coal, crude oil, petroleum products, gas, nuclear, hydro, geothermal, solar, combustible, renewable and waste, electricity, and heat.

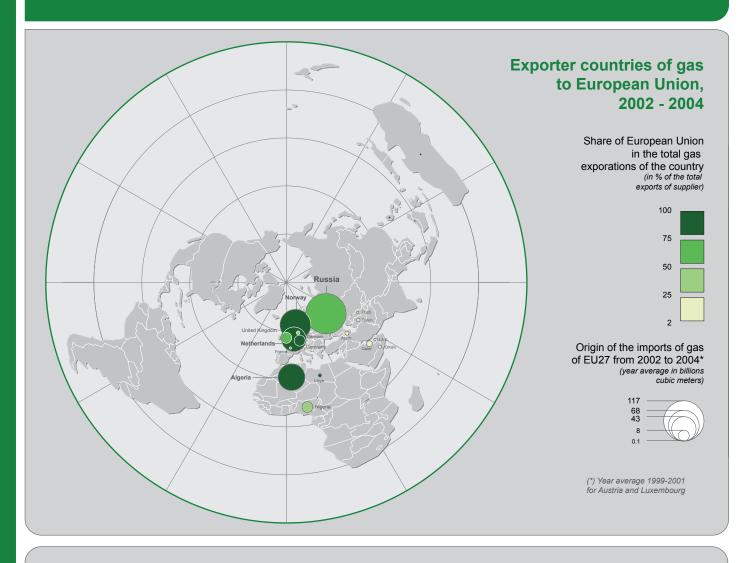


European Union is more and more dependant of the outside world for its energy supplies, because of the decrease of its own reserves. Its level of dependency has jumped up from 44 % to 56 % between 1995 and 2005. Such a dependency towards certain big suppliers is a risk factor for European Union because they are not all reliable partners. The example of gas is particularly significant.

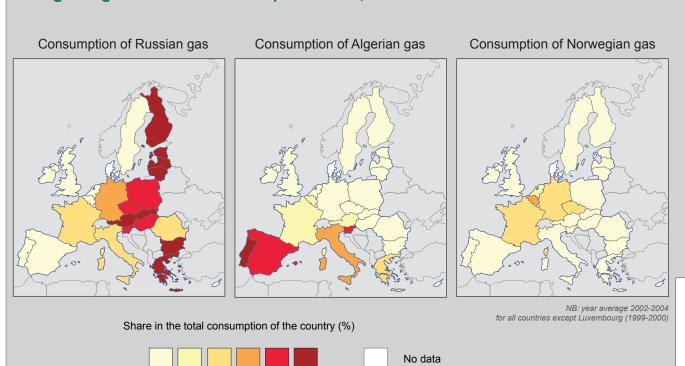
- Natural gas supplies of the EU come from various EU Members and, more and more, from neighbour countries. Russia is the most important one. Nevertheless, its importance should not be over estimated for several reasons. The European Union imports gas from other countries (Norway, Algeria, and Nigeria). Russia is the first supplier for only half of the Member States (Central Europe, Germany, Greece, Finland, etc.) which are often small or medium countries on the demographic and economic point of view. The other Members States can rely on their own reserves (Denmark, Netherlands) or on other suppliers such as Algeria and Norway (Spain, France, Belgium).
- Member States could import natural gas from other countries provided that EU is able to open new import continental corridors (from Central Asia and Persian Gulf including Iran) or to develop the transport of liquid gas by ship.

References: Atlas de l'Europe dans le monde, La Documentation française, to be printed. See Part « Réseaux », chapter 14 « flux énergétiques ».

Energy dependency of European Union, 2003



Origin of gas consumed in European Union, 2003



French presidency of the European Union

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RURAL TERRITORIAL DEVELOPMENT

These documents are based on the statistical appendix of the report "Rural Development in the European Union" published by DG AGRI (2007). A first map (up) presents the global amount of EAFRD funds allocated to each country and a second map (down) presents the detailed allocation according to the three new objectives.

"Considerable simplifications has been introduced in the new programming period 2007-2013 as compared to the previous one. Rural Development is now financed by a single fund: the European Agricultural Fund for Rural Development (EAFRD). The previous 5 types of programming have been reduced to a single one, and there is now a single financial management and control framework instead of 3. A strategic approach has also been introduced by the Community Strategic Guidelines adopted by the Council in February 2006. According to this document, support in area of rural development has to contribute to key community priorities, to other measures defined for cohesion and environment and furthermore to implementation of the reform of the Common Agricultural Policy. Following the purposes of the CAP reform launched in 2003 (to realise an aid system that is independent from production, and to increase the population retention capacity of the rural regions) three major objectives for Rural Development policy have been set for the period 2007-13:

- Increasing the competitiveness of the agricultural and forestry sector;
- Improving the environment and countryside through support for land management;
- Enhancing the quality of life in rural areas and promoting diversification of economic activities."

References: European Commission,, Rural Development in the European Union - Statistical and Economic Information - Report 2007, December 2007.

http://ec.europa.eu/agriculture/agrista/rurdev2007/index_en.htm

Budgetary executive of the European Union, on 2007-2013, to see:

http://www.bureau-alsace.org/opencms/opencms/bureau-alsace/fr/fiche_programme/cadre_bugetaire.html

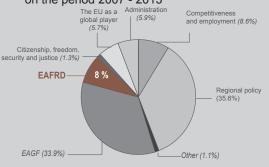
Budget of the 2nd pillar of the CAP

Budget for rural development, 2007-2013 (EAFRD)

Financial allocations by States (millions of euros)



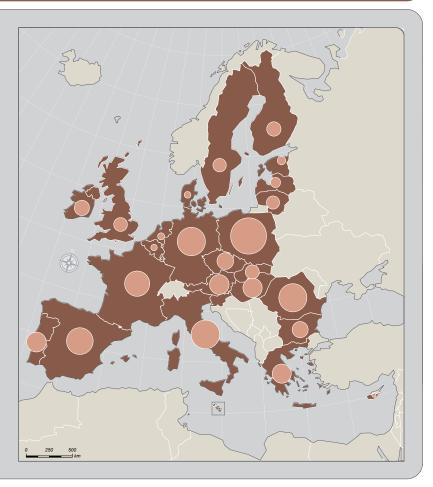
Share of EAFRD in the total budget of EU on the period 2007 - 2013

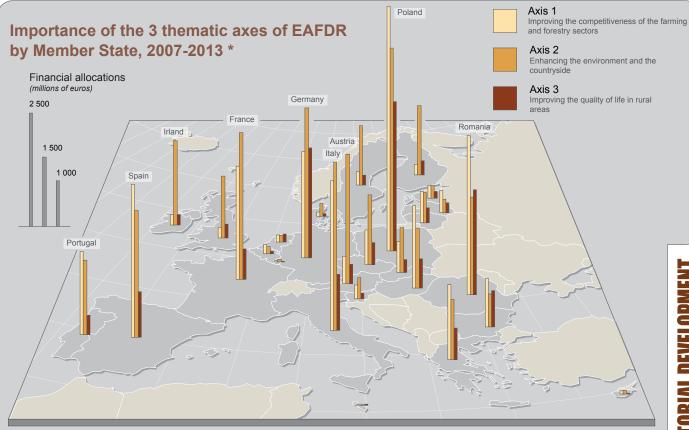


Total: 863,3 milliards

EAFRD: European Agricultural Fund for Rural Development

EAGF: European Agricultural Guarantee Fund **OTHER**: Aids for the fishery sector, support to environmental programs, administrative





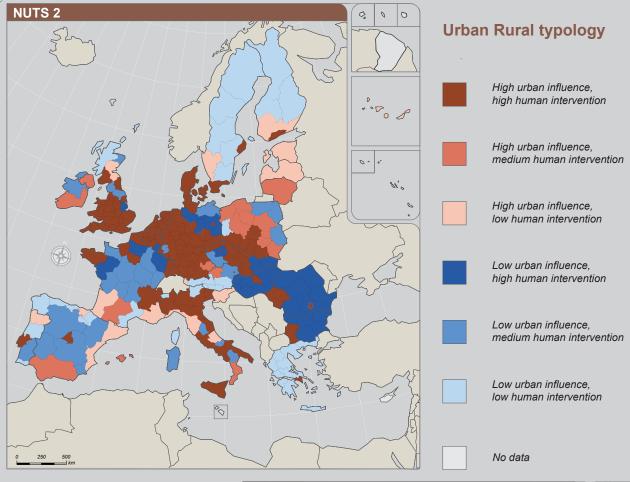
* The axes summarize different strategies for rural develoment defined by the Council of the European Union. On the basis of these orientions, each Member State shares these allocations out in accordance with its priorities.

REGIONAL LEVEL: NUTS 0

"Urban-rural" typologies of European regions have been produced by various organisation (OECD, ESPON) in order to facilitate the monitoring of rural development and provide aggregated indicator of the trends in different type of regions. But this urban-rural typology of regions is very sensitive to territorial division and is subject to important variations according to scale (NUTS2, NUTS3 ...). The problem has been analysed in by ESPON Project 3.4.3 MAUP (Modifiable Area Unit Problem).

- The spatial repartition of the urban-rural typology based on population density, FUA ranking and land cover is presented at NUTS 3 and at NUTS 2. In average, the same global spatial pattern of zones corresponding to the urban-rural typology is found for NUTS 2 and NUTS 3. But beyond these relative similarities observed in the global spatial structures from NUTS 3 and NUTS 2 typologies, important differences due the scale of the study can also be pointed.
- The criteria for urban influence are based on density population but also on the existence of a European level urban area. Thus important differences between the typology at NUTS 2 and NUTS 3 levels can be expected. For example, in the south-western part of France, only the Gironde and Haute Garonne NUTS 3 are characterised by a high urban influence (and a high human intervention) due to the existence of a European level urban area (respectively Bordeaux and Toulouse) whereas neighbouring units are characterised by a low urban influence. Situation is completely different at NUTS2 level where the regions of Aquitaine and Midi-Pyrenees are both characterised by high urban influence. In Ireland, the integration of the Dublin NUTS 3 unit, which is a European level urban area, in a wider zone at NUTS 2 changes the cartographic rendering and induces a division of the country into 2 opposite zones: a NUTS 2 zone with a high urban influence and another with a low urban influence.

References: The Monitoring Committee, ESPON Project 3.4.3 The Modifiable Areas Unit Problem, Final report, 2006. See pp. 94 Part 2 ESPON and the MAUP, Chap. 1.2 How MAUP can be seen for Cross Typologies? Figures 40 and 41.

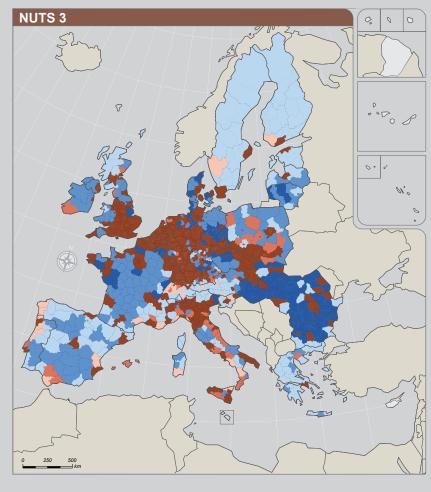


The criteria for urban influence

- Population density above the average (107 inhabitants/km² in EU27 + Switzerland + Norway)
- Presence at least a European level functional urban area (based on typology made by ESPON 1.1.1)

The criteria for human intervention

- high: at least the share of artificial surfaces above average (3.5%)
- medium: at least the share of artificial surfaces above average (50.4%)
- low: only the share of residual land use above average (46.2%)





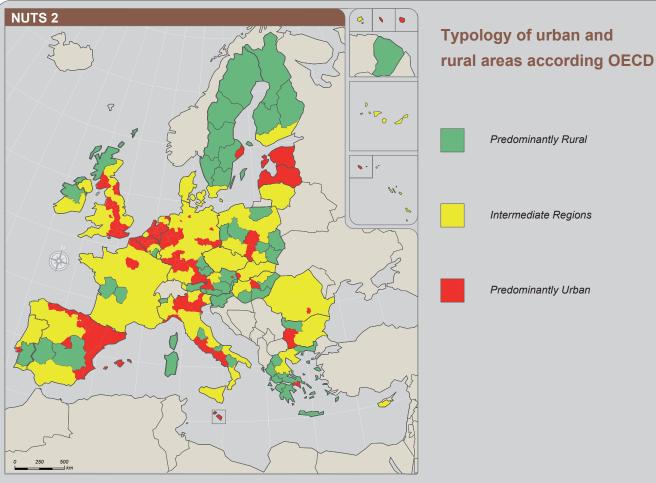
French presidency of the European Union



Comment: p.53

References: European Communities, Rural development in the European Union - Statistical and Economic Information - Report 2007, December 2007. http://ec.europa.eu/agriculture/agrista/rurdev2007/index_en.htm

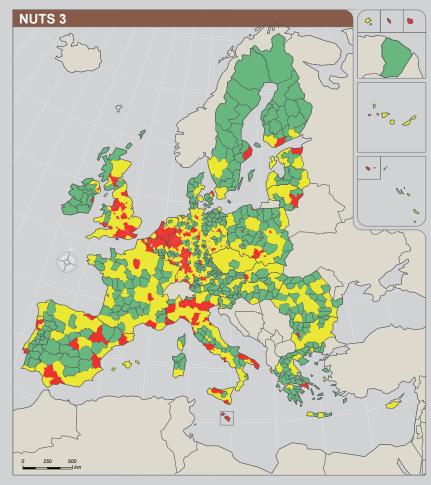
Urban - Rural Typology (OECD), 2000



Criteria of classification into urbain, intermediate et rural regions

The classification is based on the share of a region's population living in rural local unit. Rural local units are defined as local administrative units (LAU1 or 2) with a population density below 150 inhabitants/km².

- Rural regions: > 50%
- Intermediate regions: 15% to 50%
- Urban regions: < 15%





UMS 2414 RIATE, 2008 Data: DG AGRI, 2008

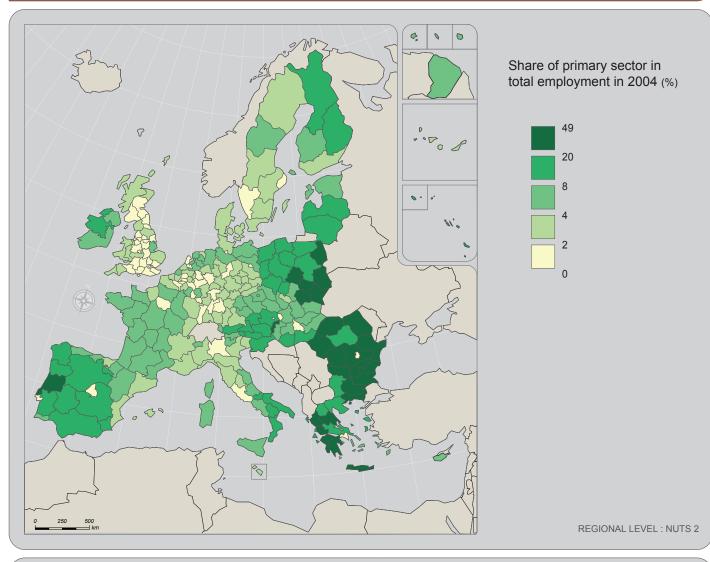
Despite the relatively low proportion of agricultural employment as compared to the total labour force at regional scale, this sector of activity is especially strategic in the development of the territories from the stakes it rises: land-use, importance and diversity of production, labour market area organisation in rural spaces...

- When comparing the maps of employment in primary sector and food-industry, the analyse reveals differentiate conclusions of the situation in European regions. The importance of primary sector is strongly heterogeneous in the regions of European Union. If its importance in the employment structure is fundamental in Eastern Europe (Romania, Bulgaria, Eastern Poland, South-West of Greece), with a share above 20 % of total employment (coloured in green); it represents also a minor part in central Europe where primary employment represents less than 5 % of total labour force.
- The map showing the share of employment in food industry delivers another picture of the situation. First, the employed persons are lower. As regard to the spatial repartition of primary employment, the phenomenon follows another logical: in the most part of EU Member States, some groups of regions get specialised in food industry. This is the case for the North West of Poland, Southern Hungary, and Western France, the centre of Spain or Southern Czech Republic where the share of employment in this sector is 2 or 3 times greater as the mean value of the other regions of their own country.
- The map representing farmers with other gainful activity (IE except agriculture) illustrates a growing diversification of economy in rural areas and a progressive change in the way of practicing the agricultural profession. This evolution is characterized by an increasingly significant part of nonagricultural activities carried on by farmers (direct sales, arts and craft, agro-tourism...). On average, 36.4% of the European farmers carry on other activity than their agricultural activity. This figure is particularly notable in Central Europe, Northern Europe, and in the New Member States where 30 to 50% of the farmers carry on other economic activity. In Southern Europe a more traditional mono-agricultural activity is still dominant. This map, related to the one on the share of employment in the primary sector illustrates the revival of a diversified economic activity in rural areas and the decreasing share that agriculture represents in some European regions.

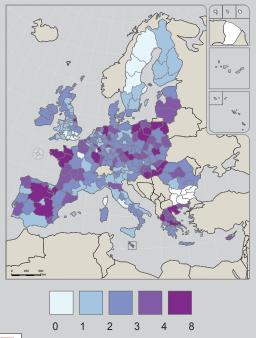
References: European Communities, Rural Development in the European Union - Statistical and Economic Information - Report 2007, December 2007.

http://ec.europa.eu/agriculture/agrista/rurdev2007/index_en.htm

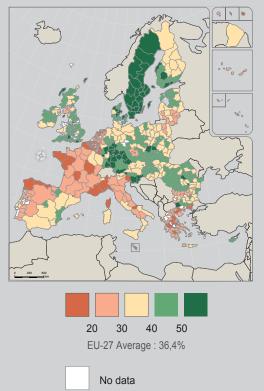
Agricultural employment, 2005







Share of holders-managers with other gainful activity in 2005 (except agriculture),(%)



DIACT

UMS 2414 RIATE, 2008 Data: DG AGRI, 2008

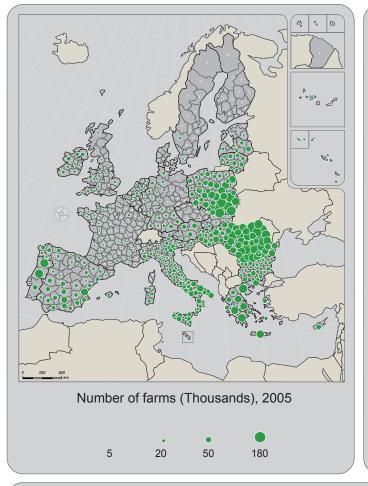
Even if the agricultural employment stays more important in rural areas than anywhere else, the importance of agriculture in rural economies is variable. In some cases, the agriculture structures local industries which are determinant in term of employment, value added, environmental or cultural production. In other cases, it takes an important place, consumes a lot of natural resources, and contributes to European economical equilibrium, but influences less the local economy. These situations can also be combined and have to be analysed as compare to farm structures, land use or the importance of other activities.

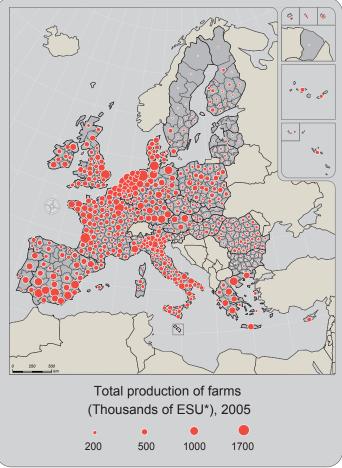
- The map of farm structures reveals that European Union presents different types of situation. Eastern Europe (Eastern Poland, Hungary, Romania and Bulgaria) is characterised by the great number and the relative poverty of its exploitations. Mediterranean Europe (Portugal, southern Spain, Italy and Greece) is described simultaneously by the importance of the number of its farms and its production. North-Western Europe (Germany, United Kingdom, Ireland, Belgium, Luxembourg, Netherlands and France) presents a low number of farms, which production has an important value added.
- These maps emphasize the need of a geographical approach for supporting production or farmers.

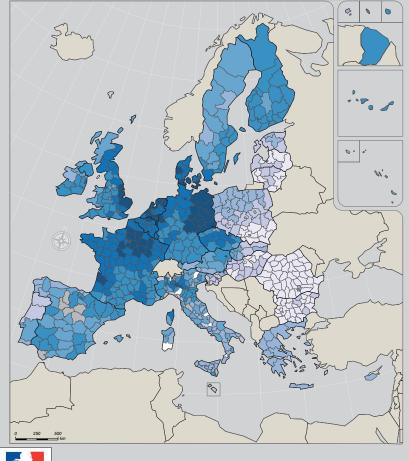
References: European Communities, Rural Development in the European Union - Statistical and Economic Information - Report 2007. December 2007.

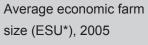
http://ec.europa.eu/agriculture/agrista/rurdev2007/index_en.htm

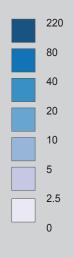
Farm structure, 2005













(*) European Size Unit: Unit of measurement of the economic size of an agricultural holding

