

Country fiche

Territorial patterns and relations in Greece

Smarter Europe

Greener Europe

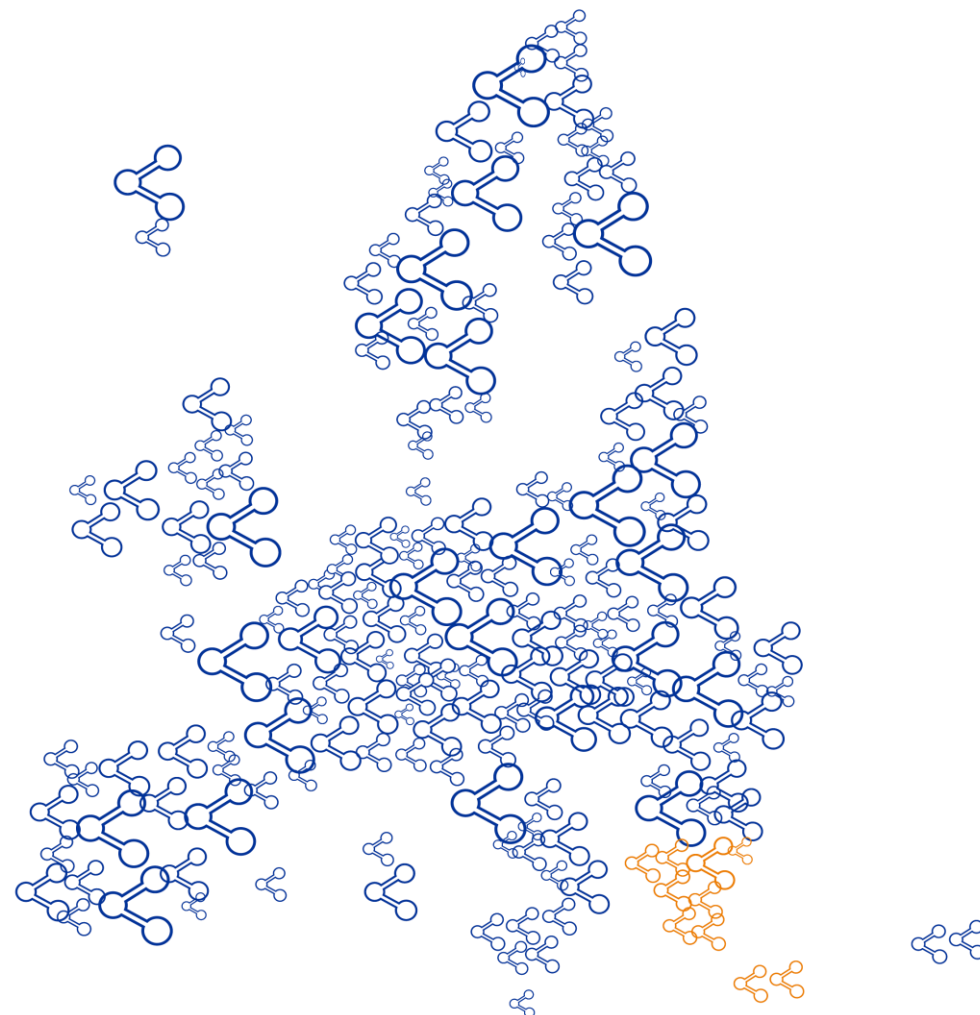
More connected Europe

More social Europe

Europe closer to citizens

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Introductory remarks

The content of the following overview is a summary of research results from different thematic applied research projects under the ESPON 2020 programme. As a consequence, most indicators and analyses are not based on most recent data but represent the data availability at the time when the research was undertaken. Only in a few cases, for some rather basic indicators that could easily be reproduced, more up-to-date information was used.

It is therefore important to note that this overview is mainly a collection of available findings with different time stamps and not an up-to-date, comprehensive analysis. Its main goal is to showcase the wide range of ESPON research and, by zooming-in on a specific country, to raise interest for the scientific results at a more national and even regional scale.



Smarter Europe

Regional Innovation Scoreboard (2019)

Development of the share of persons employed in micro enterprises (2008-2014)

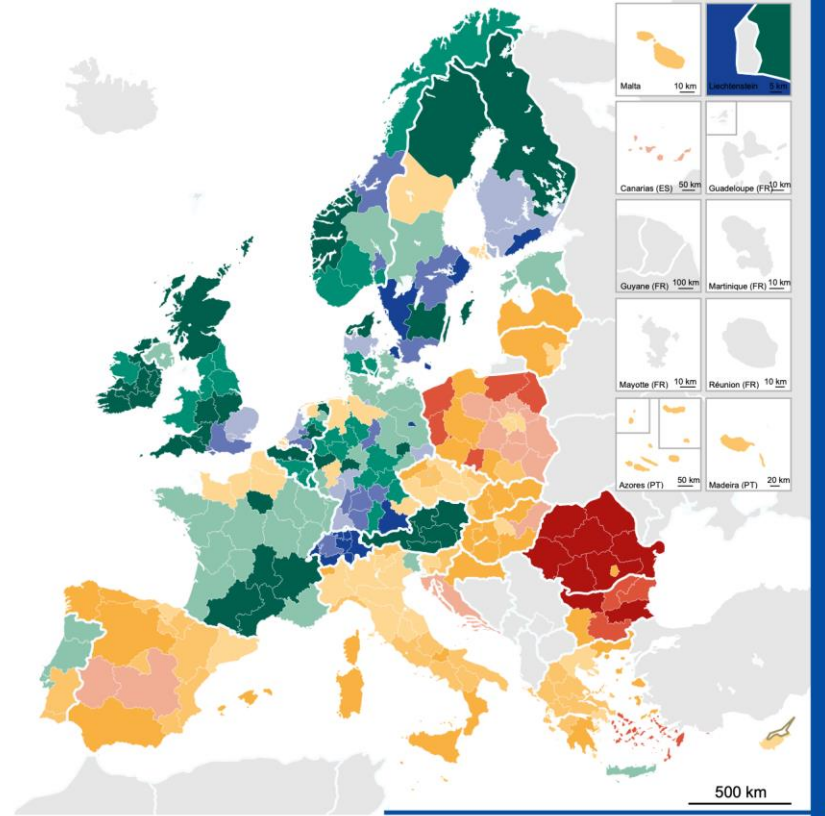
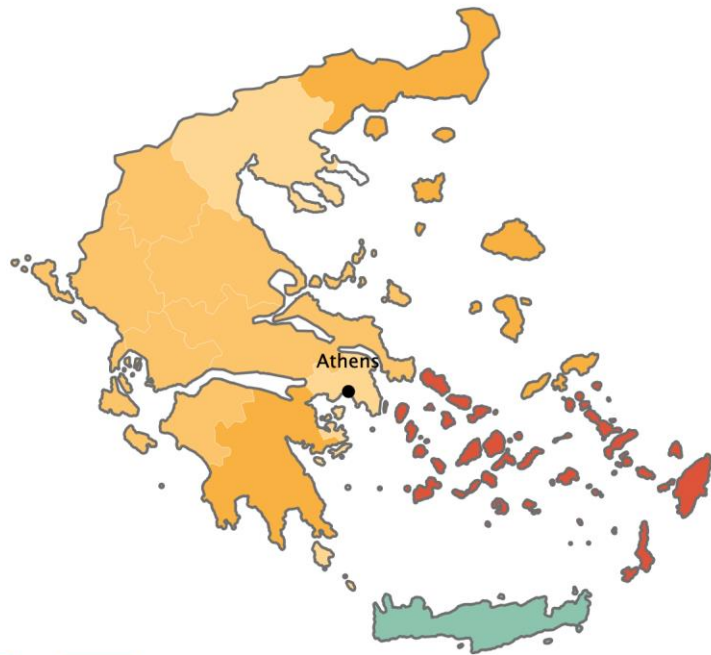
Foreign Direct Investment inflows from extra-European sources: number of projects (2003-2015)

Foreign Direct Investment inflows from extra-European sources: at regional level (2003-2015)

Foreign Direct Investment inflows from extra-European sources: in the service sector at regional level (2003-2015)

Financial instruments: dominant product type (2007-2013)

Regional Innovation Scoreboard (2019)



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 Regional level: NUTS 1 / 2 / 3 (2013 and 2016)
 UMS RIAGE for administrative boundaries
 Co-financed by the European Regional Development Fund

RIS Performance groups 2019

Leader +	Strong +	Moderate +	Modest +	No data
Leader	Strong	Moderate	Modest	
Leader -	Strong -	Moderate -	Modest -	

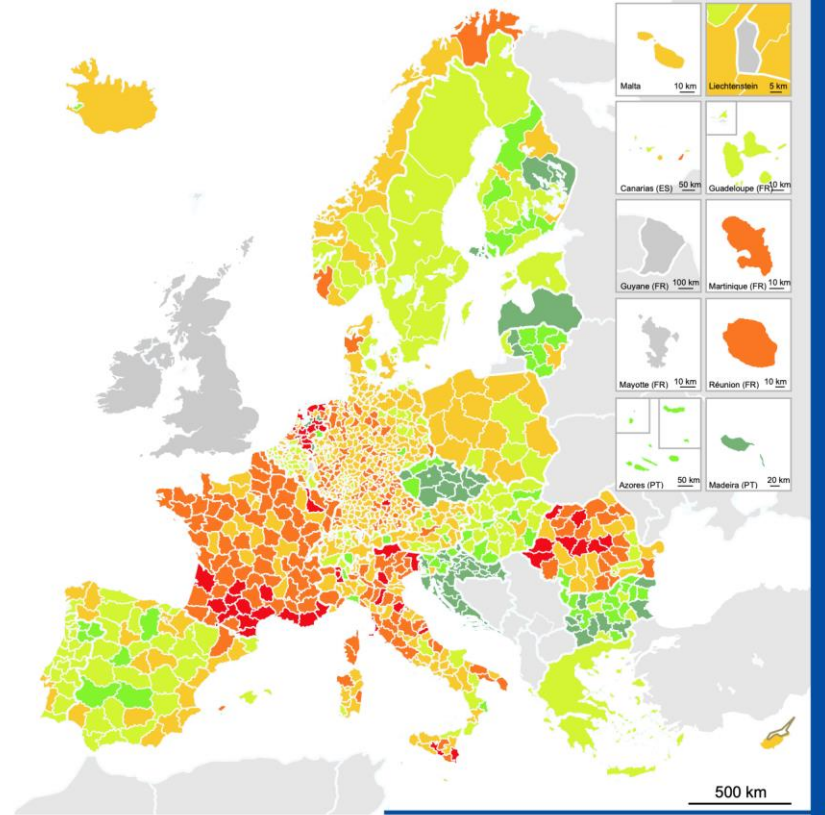
Origin of data: Regional Innovation Scoreboard, 2019
 Definitions: The RIS 2019 is a comparative assessment of regional innovation based on the European innovation scoreboard methodology, using 18 of the latter's 27 indicators. It provides a more detailed breakdown of performance groups with contextual data that can be used to analyse and compare structural economic, business and socio-demographic structure differences between regions.

Crete the strongest innovator in Greece

Innovation performance is measured by the European Commission on the basis of the unweighted average of 17 indicators reflecting human resources, research systems, R&D expenditure, innovation in SMEs, cooperation, patents and sales of innovative products. Based on their scores, EU regions fall into four performance groups: innovation leaders, strong innovators, moderate innovators and modest innovators, with three subgroups. At the European level, one observes a concentration of high performances in a European core area running from South-East England to Switzerland, southern Germany, including the southern part of Saxony on the border to the Czech Republic. Values are also high in a number of northern European regions with large cities.

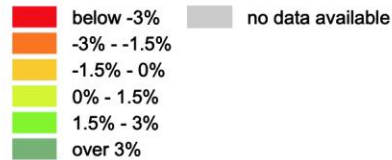
The regional innovation performance in Greece shows a diverse picture. Overall, Greece is a moderate innovator. Crete is the only strong innovator and most innovative region of the country. Crete performs high in the indicator 'innovative SMEs collaborating', when compared to the EU average, as well as in the 'sales new-to-market / firm innovations' indicators, compared to both EU and national average. The regions of Athens and Central Makedonia are moderate+ innovators, performing the highest in the 'innovative SMEs collaborating' indicator, compared to EU average. The South Aegean islands are classified as modest innovator, reflected by a relatively low performance in most indicators. The remaining regions are all moderate innovators.

Development of the share of persons employed in micro enterprises



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Development of the share of persons employed in micro enterprises (1-9 persons employed) in % p.p.a., 2008-2014



Notes
 - Data for FI, SI corresponds to 2008 - 2010,
 - Data for DK, FR, MT corresponds to 2008 - 2013,
 - Data for DE corresponds to 2008 - 2015,
 - Data for CZ, EE, LU corresponds to 2010 - 2014,
 - Data for CH, HR, LT relates to 2011-2014,
 - Data for EE, LV, MT, PL, SE relates to NUTS2,
 - Data for EL calculated from SBS Data, split up of size group 0-9 in 0 and 1-9 using the results of
 IME - GSEVEE study (survey of 1.006 Greek SME, July 2017)

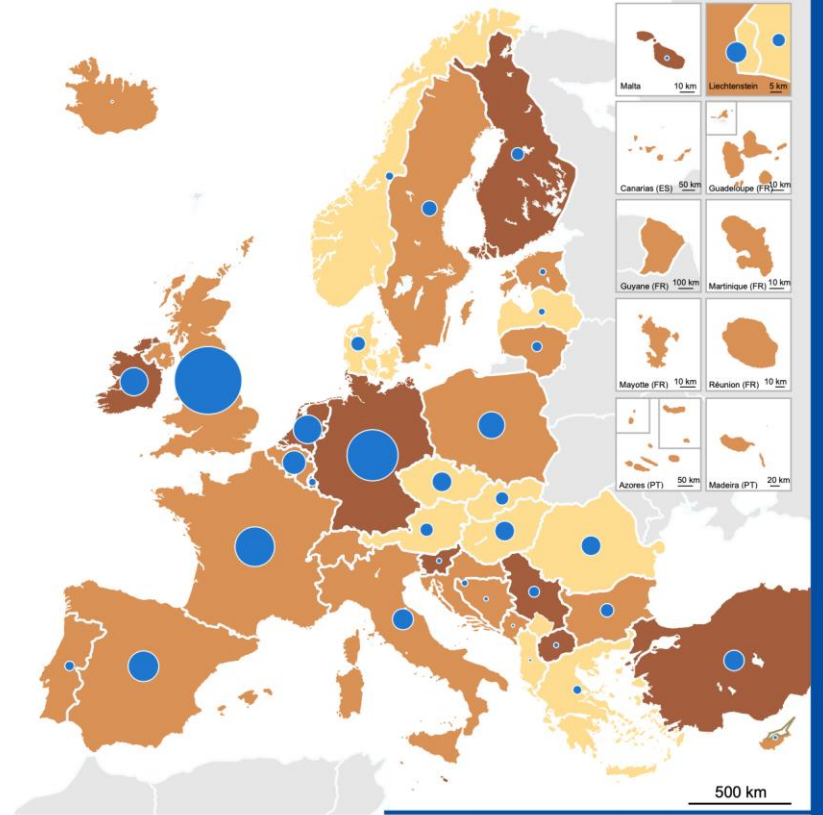
Source: ESPON SME, 2017
 Origin of data: Eurostat Business demography, Statistics Austria national SBS, Statistics Belgium Demografie Ondernemingen, ORBIS, Beschäftigtenstatistik Bundesagentur, national SBS, Statistics Finland national BD, Insee, Direction des statistiques démographiques et sociales (DSDS), Financial Agency, Central Statistics Office (CSO) national BD, Statistics Iceland national BD, Amt für Statistik Fürstentum Liechtenstein - Beschäftigungsstatistik, Statistics Norway national BD, Central Statistical Office Poland national BD, Statistics Portugal Integrated Business Accounts System, National Statistics Institute Romania national SBS, Statistics Sweden Business Register, Bundesamt für Statistik Schweiz, Small Enterprises' Institute of the Hellenic Confederation of Professionals, Craftsmen and Merchants (IME GSEVEE)

Moderate importance of micro-enterprises in Greece

The importance of micro enterprises has increased from 2008 to 2014 attracting more and more employees. In certain countries, this has been a result of the economic crisis and of the burgeoning of small businesses in several sub-sectors of the service industry. The relative development of employment in micro-enterprises is recorded (by decreasing development pace) in the Czech Republic, Croatia, Bulgaria, Finland, Latvia, Estonia and most of Lithuania, as well as in the south of the EU, particularly in Portugal, Spain and Greece. Countries in the Central and North West Europe, as Austria, Italy, Germany, the Netherlands, France and Luxembourg show the opposite effect, with decreasing shares of people employed in micro-enterprises.

The development of the share of persons employed in micro-enterprises in Greece shows a slight increase between 2008-2014 (+1,5 percentage point). This upward trend, showing a change in the structure of employment, reflects the resilience of small businesses and crafts in the tourism sector during the economic and financial crisis that affected the country.

Extra-European FDI inflows across European countries (2003 - 2015)

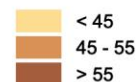


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Number of extra-European FDI projects (2003 - 2015)



Number of projects in 2010 - 2015 as a share of the number in 2003 - 2015 (in percentage)



200 km

500 km

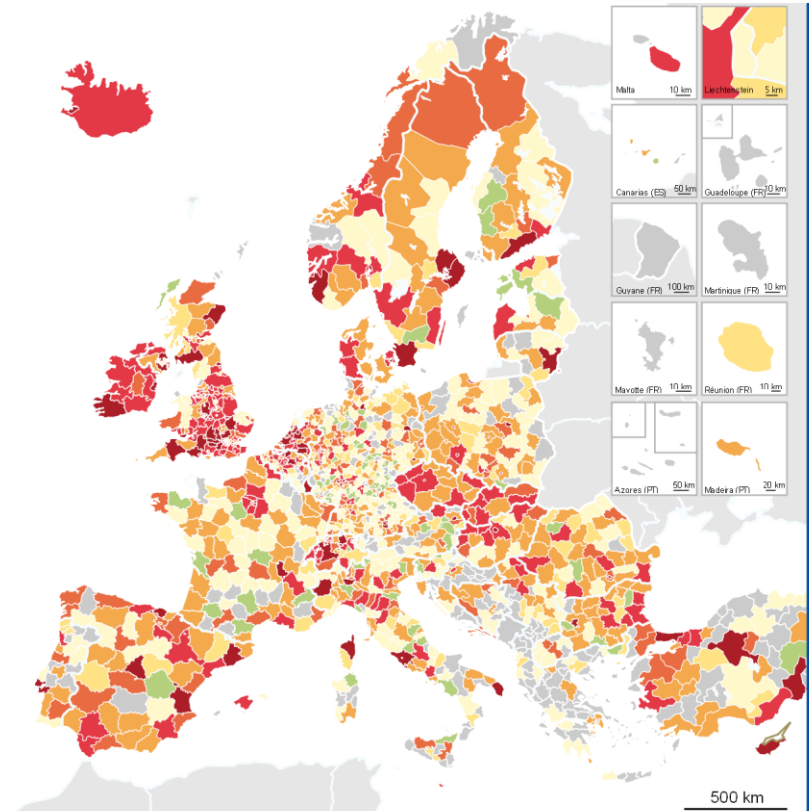
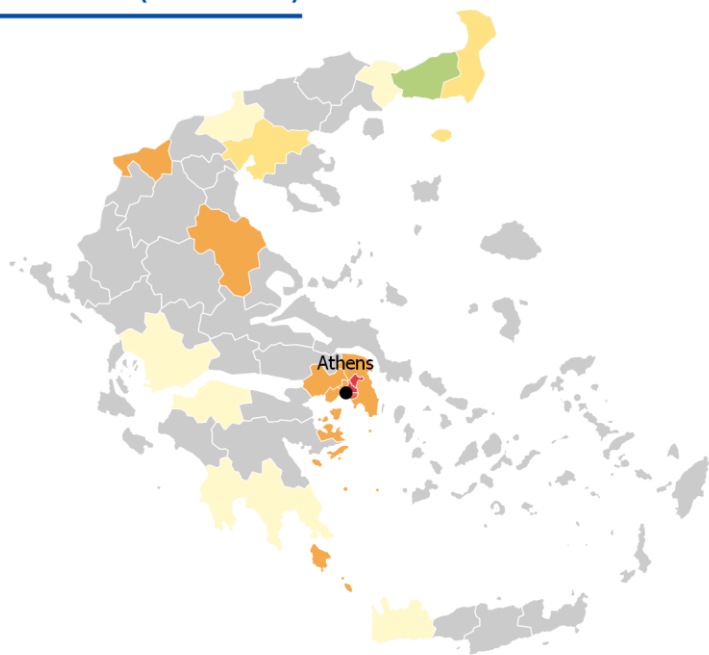
Source: The World in Europe, global FDI flows towards Europe, 2017
Origin of data: Copenhagen Economics based on BvD's Zephyr and the Financial Times databases, 2016

A limited attractiveness to extra-European foreign investors

Foreign Direct Investments (FDI) show the attractiveness and competitiveness of EU regions for foreign investors. The main EU destination for extra European FDI is the UK, which alone attracted 30% of the total value of extra European FDI, of which 49% coming from the US. Other countries that are key destinations are Germany, the Netherlands and France. Furthermore, countries with a favourable tax system, like Cyprus, Ireland and Luxembourg are also large FDI recipients, compared to their size. FDIs mainly flow to large countries in terms of GDP, with Germany, the UK, France, Italy and Spain accounting for about 60% of the total FDI flows.

Greece has a low FDI attractiveness. The country accounts for less than 250 extra-European projects between 2003 and 2015. This shows that, during this period, Greece was not perceived as an attractive and competitive country for foreign investors. Unlike other member states in the south of the EU, Greece has a low attractiveness. A tax system and a national law framework unfavourable to FDI, as well as other legal barriers are reasons for low FDI attractiveness in Greece.

Foreign Direct Investment inflows from extra-European sources: at regional level (2003-2015)



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200 km

500 km

Value of extra-European FDI inflows to European regions in 2003-2015 (in million euro, 2015 value)



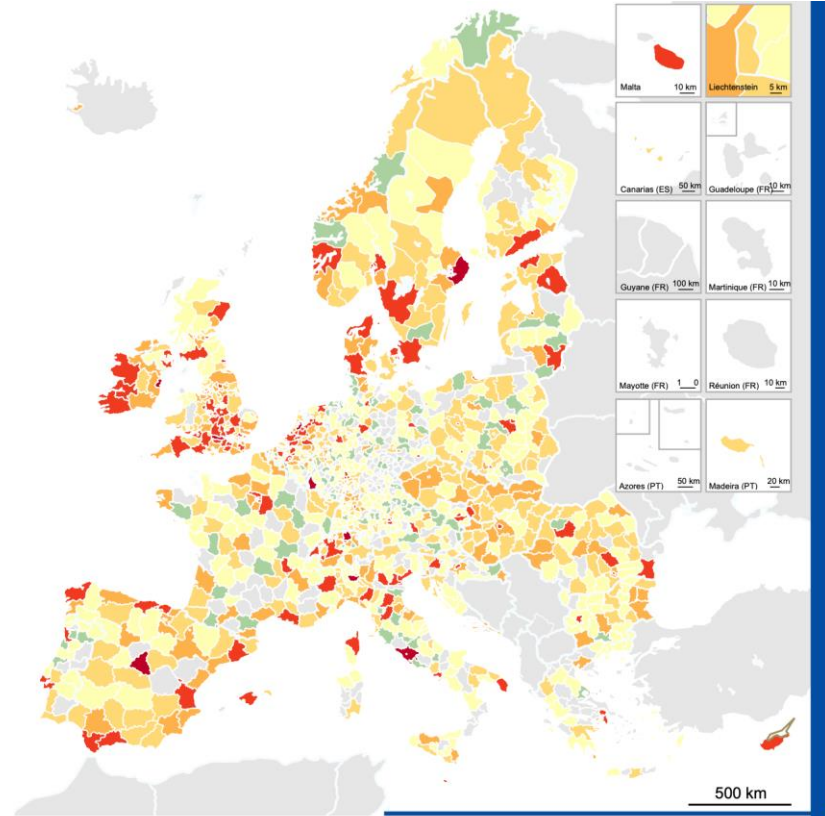
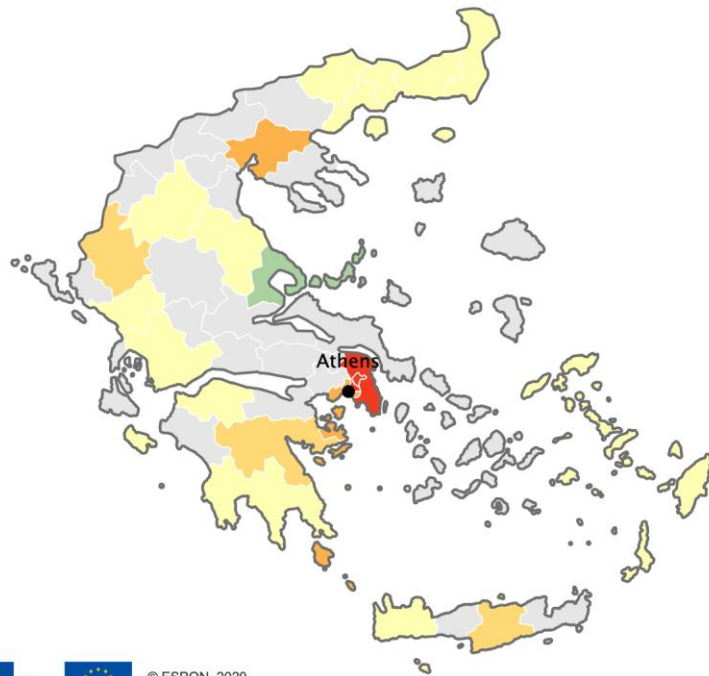
Source: The World in Europe, global FDI flows towards Europe, 2017
Origine of data: Copenhagen Economics based on BvD's Zephyr and the Financial Times databases, 2016

Moderate FDI inflows, mostly in urban areas

Amounts of Foreign Direct Investments recorded in a region reflects the regional capacity to attract capital from third-country investors. Some countries attract high amounts of FDI distributed across all regions. This is the case in the Netherlands, Ireland, or the UK. In Ireland, case study shows that it is due to an aligned targeted FDI strategy aimed at maximising the potential of regions outside the capital. In other country, metropolitan capital regions and their neighbouring regions tend to attract significantly more FDI than other region, as observed in France, Spain, Hungary, or the Baltic States. Absence of "information on deal value" is the consequence of gaps in the database. The results should therefore be considered with caution.

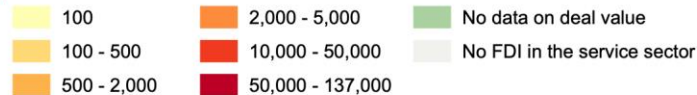
Greece shows a diverse picture when it comes to the extra-European FDI inflows at regional level. Most of Greek regions did not record any FDI inflow. Highest values (between 100-500 million euros) are recorded in the capital region of Athens, as well as in Larissa and Florina regions. This is followed by the urban area of Thessaloniki, and Evros. Other cumulated inflows of 50 million euros or less are located in the region of Kilkis, Ksanthi, in Western Greece, the south of the Peloponnese and west of Crete. Compared to other countries in the Mediterranean Sea basin, Greek regions have, in average, low levels of FDI inflows.

Foreign Direct Investment inflows in the service sector (2003-2015)



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Value of FDI inflows to European region in 2003-2015 in the service sector (in million euros)



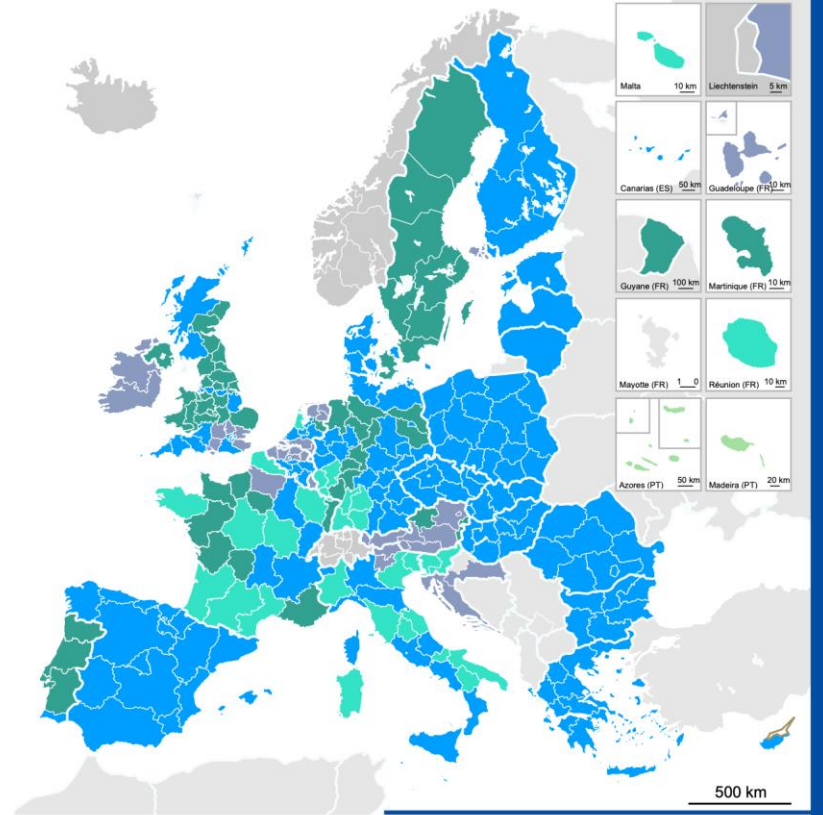
Source: World in Europe, 2017
Origin of data: Copenhagen Economics based on BvD's Zephyr and Financial times databases, 2016

FDI inflows in the service sector concentrated in Athens and surroundings

FDI inflows in the service sector is very much concentrated in the most populated and most innovative urban regions: e.g. around Paris, Lyon and Marseilles in France, Stockholm, Malmö and Gothenburg in Sweden, or Madrid, Barcelona, Valencia and Bilbao in Spain. This reflects the role played by large cities in the global value chains, especially with regards to touristic, logistic and knowledge-intensive activities. High values are found in most regions of countries with high level of specialisation in financial activities: the UK, Ireland, the Netherlands, and Luxembourg. Other financial places are also well positioned, e.g. Zürich, Milan or Frankfurt-am-Main.







In Greece, attraction of FDI in the service sector follows the urban hierarchy of the country. It is primarily concentrated in Athens and its immediate surroundings (Athens-Centre, Athens-North and East-Attica – for a total 23.4 billion euros), then, with more limited inflows: Thessaloniki (637 million euros), Iraklion (488 million) Argolis (401 million) and Ioannina (118 million). This pattern is coherent with preferences of investors in service sector for (1) labour abundance, (2) higher level of tertiary education, (3) and large market size.

Financial instruments: dominant product type (2007-2013)



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Dominant product type by invested amount

 Equity/Venture capital	 No uptake
 Guarantees	 Other product types
 Loan	 Non-EU

Source: Financial Instruments and territorial cohesion
Origin of data: DG REGIO, FI ESPON

Potentially more efficient use of European Structural Funds through Greek loans

Financial instruments (FI) comprise diverse type of products - loans, guarantees and equity. These products are unlike grants repayable and provide thus for an opportunity to re-use European Structural and Investment Funds (ESIF). In the 2007-13 programming period about 11.5 EUR of ESIF were committed to FI, 3.7% of all commitments. FI were established in 25 EU Member States, involving support from 192 operational programmes. In particular loans were offered, mainly in southern and eastern European countries. Equity financing was the dominant form of investment in Sweden, in Portugal and UK regions. Guarantees were predominantly offered in French, Slovenian and Italian regions. Croatia, Ireland and Luxembourg did not invest ESIF through financial instruments.

Greece was one of the European countries with high shares of ESIF invested through financial instruments in the 2007-13 programming period. Over 1 billion EUR of ESIF was invested, representing 5.3% of the total cohesion policy allocation. In absolute terms only Italy, Poland and Germany invested more ESIF through FI. Loans were the dominant type of FI. The total amount of investments via FI increased in the 2014-20 period. Until 2019 1.5 billion of ESIF has been committed to FI, establishing 127 instruments with support from the European Regional Development Fund (ERDF) and 1 instrument supported by the Cohesion Fund (CF).



Greener Europe

Residential building, share of renewable energy carriers, heating and DHW excl. electricity (2012)

Solid biomass, primary energy potential (2012)

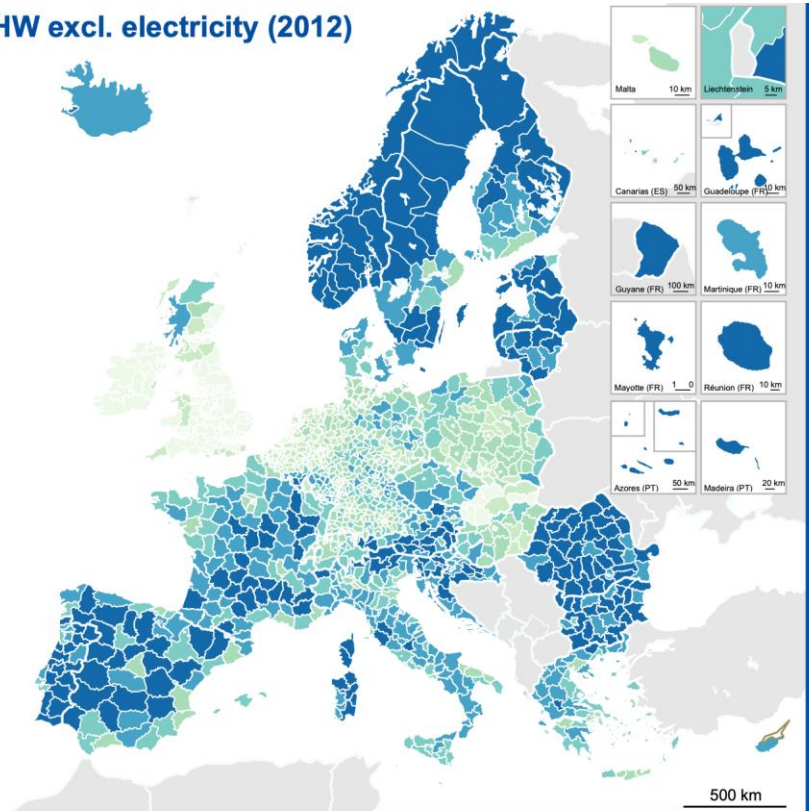
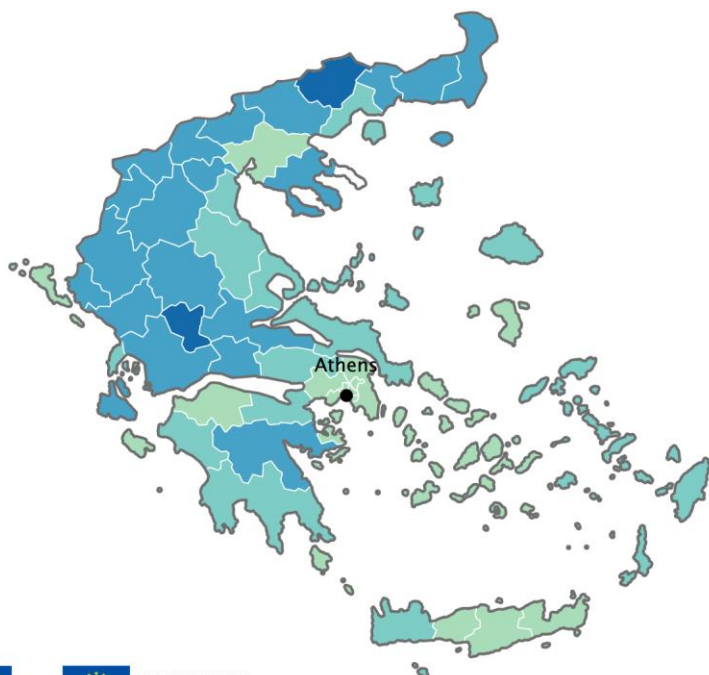
Funding for energy efficiency and renewable energy projects

Funding for fossil related to efficiency and renewable energy projects

Total Waste per capita (2014)

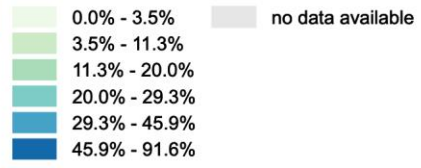
Decoupling Domestic Material Consumption from GDP (2006-2014)

Residential building, share of renewable energy carriers, heating and DHW excl. electricity (2012)



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Residential building, share of renewable energy carriers, heating and DHW excl. electricity (2012)



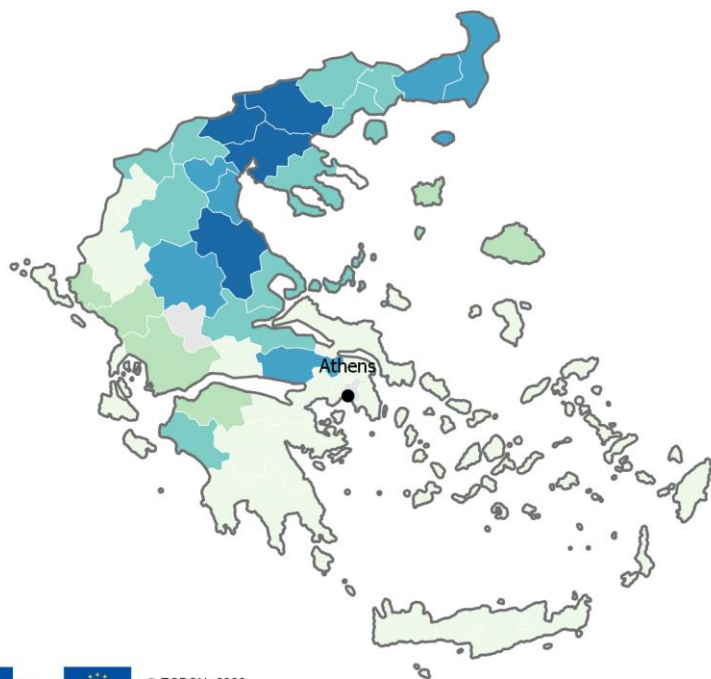
Source: ESPON LOCATE, 2017
Origin of data: Eurostat 2001-2016, own calculations

Biomass remains an important renewable energy source to heat houses in central Greece

A variety of energy sources heat Europe's residential buildings, including gas, oil, coal, electricity, and heating systems e.g. district heating. Electricity and heating systems can have renewable sources. The share of residential buildings that are provided with renewable energy is particularly high in Baltic regions as well as in Romanian and Bulgarian regions. High shares of renewable energy use in these countries derives from long traditions of using biomass for heating and domestic hot water production. In the Nordic countries as well as in Spain, Portugal and Austria the use electricity and heat is relatively high which in these countries mainly derive from renewable energy sources. The share of renewable energy for heat in residential buildings in the Netherlands and UK is lower due to traditions and widespread networks of natural gas.

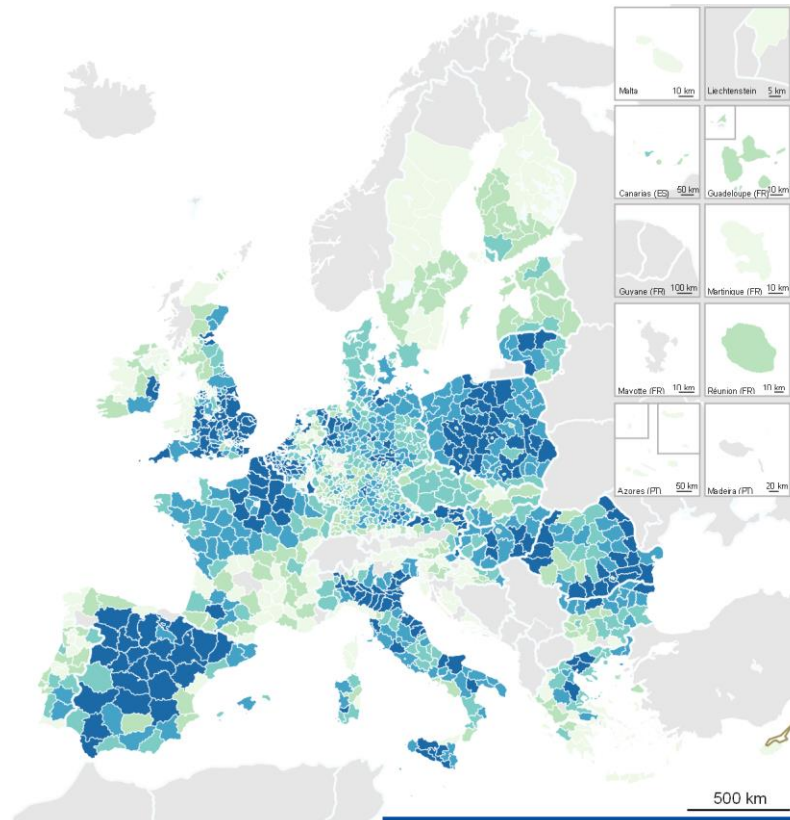
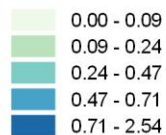
Residential buildings in Greece are to a moderate degree heated with renewable energy sources. The share of residential buildings heated with renewable energy sources is in general lower in urban areas and higher in mountainous and rural regions. . In recent years, Western Macedonia appeared as a prominent region for the development of renewable energy in Greece, closing down some electricity production plants based on lignite and gradually trying to comply to the just transition prerequisites for the new programming period. Several fossil-based power plants will be closed, while the ERDF regional programme will be further mobilised to fund renewable energy solutions and support the region to adjust to the new reality.

Solid biomass, primary energy potential (2012)



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Solid biomass, primary energy potential, [GWh/km²]



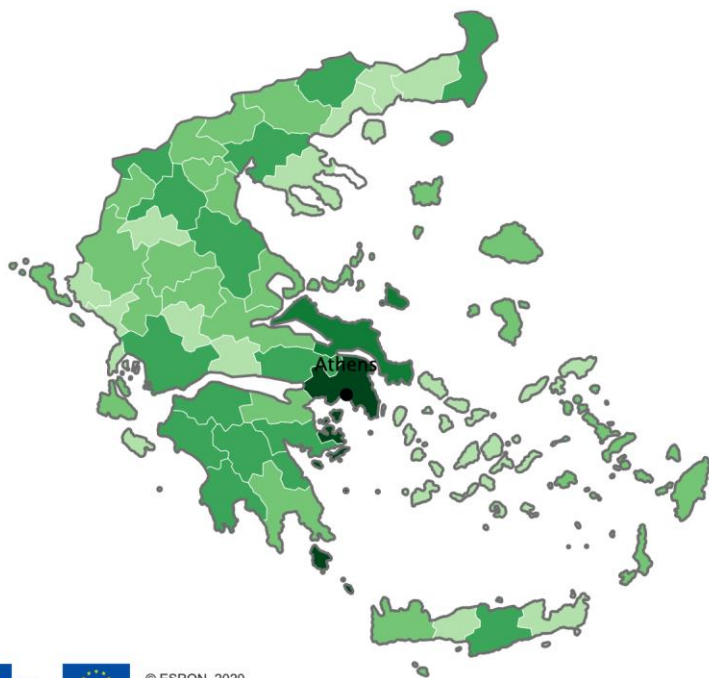
Source: ESPON LOCATE, 2017
 Origin of data: Eurostat 2001-2016, own calculations

High potential for biomass as energy source in Greece's rural regions

The European Commission assumes a key role for bioenergy in achieving the EU's renewable energy targets for 2030 and beyond. This includes biomass from feedstock, forestry and organic waste. Particularly a region's agricultural output determines its bioenergy potential. The use of agricultural biomass for energy contributes to sustainable energy production, saves greenhouse gas emissions against the use of fossil fuels, and allows to maintain ecosystems services and limits deforestation. Hence some of Europe's main agriculture areas have highest potential for biomass as energy source, e.g. in northern France, central Spain, central Poland and northern Italy.

Greek regions have diverse potentials for bioenergy. In particular, regions in Central Macedonia as well as in Larissa have a high potential for biomass, up to 0.88 GWh/km² in Kilkis. These relatively flat regions have reasonable agricultural outputs that can be used to produce energy through incineration or the production of biofuels. Some of the rather mountainous or arid regions, such as the Epirus, Peloponnese or many island regions have a lower potential for bioenergy. The biomass energy potential is only 0.01 GWh/km² on the North and South Aegean islands and on Lefkada. A lower energy potential in these areas is among others due to lower levels of agricultural output as well as higher shares of land covered by protected areas.

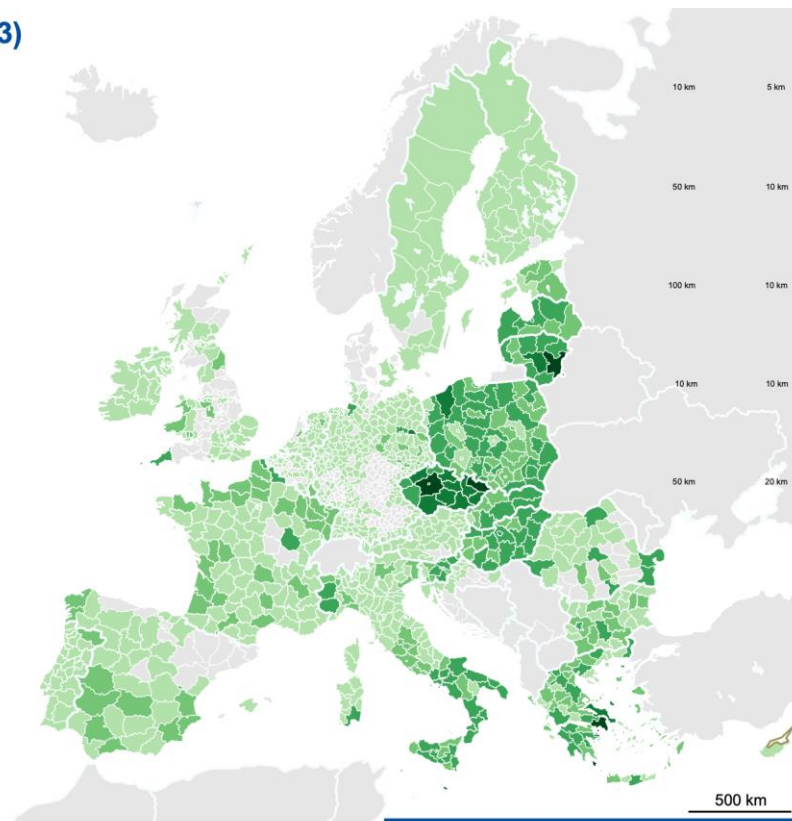
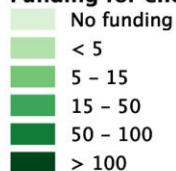
Funding for energy efficiency and renewable energy projects (2007-2013)



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200 km

Funding for energy efficiency and renewable energy projects in Mio EUR (CF, ERDF)



10 km 5 km

50 km 10 km

100 km 10 km

10 km 10 km

50 km 20 km

500 km

Source: ESPON LOCATE, 2017
 Origin of data: EC, Geography of Expenditure, Final Report, WP 13, 2015;
 Eurostat (2011 - NUTS3) for population data

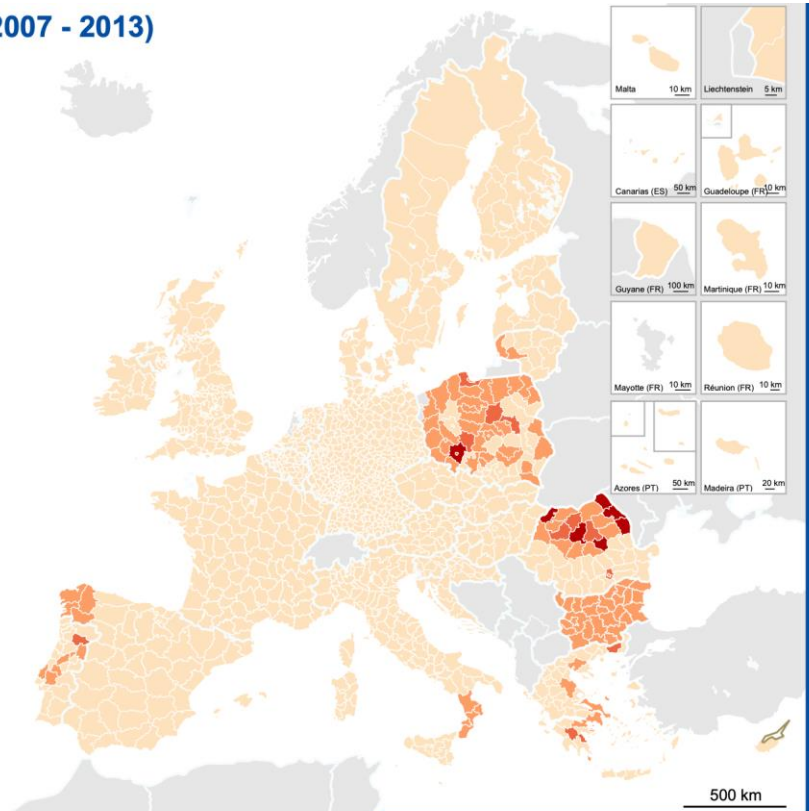
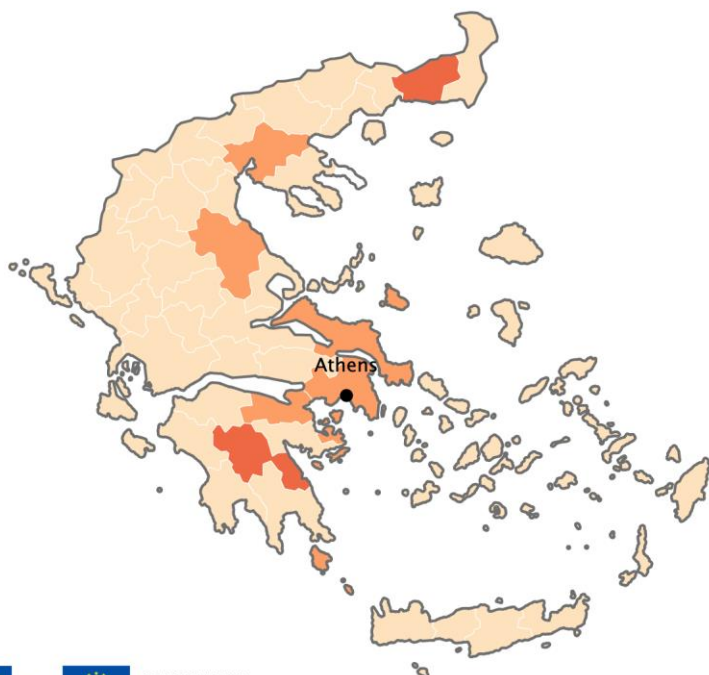
Funding dedicated through European Regional Development Fund and Cohesion Fund during the 2007-2013 programming period.

Large amounts of European funds spent on energy efficiency and renewable energy projects

Significant amounts of European Regional Development Funds and Cohesion Funds went to activities to encourage energy efficiency and renewable energy production in the programming period 2007-13. Following the allocation of these Structural Funds, most of funds were spent in eastern and southern European regions. The amount of funds spent on energy efficiency and renewable energy was particularly high in Czech regions, mainly in Prague and Ostrava as well as in Vilnius and Athens. In these urban areas, structural funds have among others been used to better insulate buildings encouraging better energy efficiency. Only in Danish and British regions no ERDF or CF funds were used for energy efficiency and renewable energy projects.

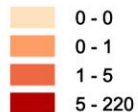
Between 2007-13 large amounts of ERDF and CF were spent in energy efficiency and renewable energy project in Greece. Most funds were spent in urban areas, notably Athens as well as Thessaloniki and Iraklion. About 304.5 million EUR of ERDF and CF was allocated to energy efficiency, co-generation and energy management in Greece in the 2007-13 programming period, representing about 2% of the total ERDF/CF allocations. More than 800 projects were supported in this theme based on the implementation reports from 2013.

Funding for fossil related to efficiency and renewable energy projects (2007 - 2013)



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Ratio of funding for fossil to funding for renewable energy (%)



Source: ESPON LOCATE, 2017
Origin of data: EC, Geography of Expenditure, Final Report, WP 13, 2015;

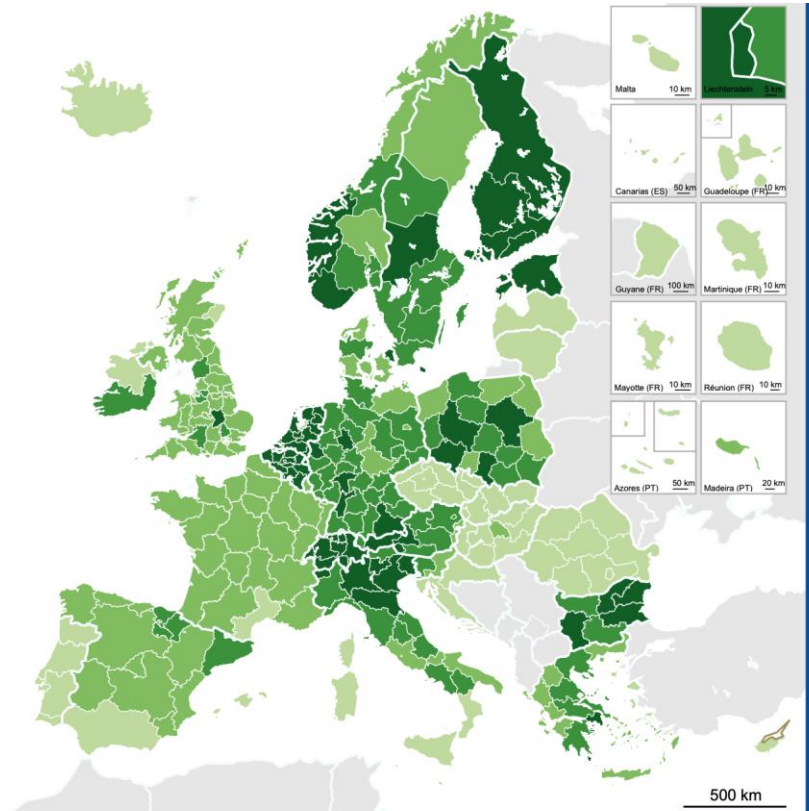
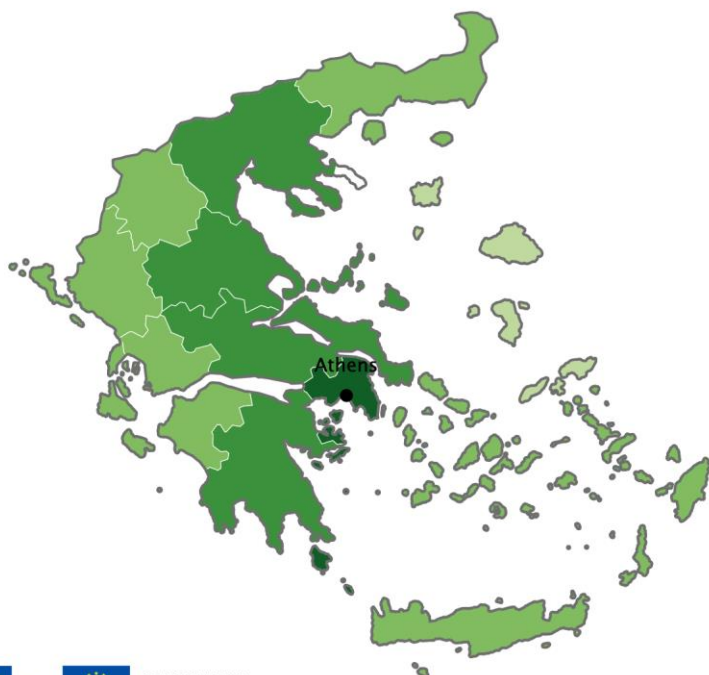
Funding dedicated through European Regional Development Fund and Cohesion Fund during the 2007-2013 programming period.

Prevalence of low carbon projects in most Greek regions

Only few operational programmes for the European Regional Development and Cohesion Fund provided funding for fossil fuel related projects in the 2007-13 programming period. Fossil fuel projects supported can be found in Poland, Romania, Bulgaria, Portugal, Greece, Italy, Lithuania and Spain. It concerns for example better infrastructures for energy networks or storage. In only few regions more funds were allocated to fossil fuel projects than to low carbon projects stimulating energy efficiency and renewable energy notably in Poland and Romania as well as the Portuguese region of Douro and the Greek regions of Ropodi and Akrata. Following the ambitions of the European Green Deal, ERDF and CF investments in fossil fuel projects are not anymore possible.

Greek regions are among the few European regions that invested ERDF and CF in fossil fuel projects in the 2007-13 programming period. In the regions of Thessaloniki, Larissa, Euboea and Athens the share of funds allocated to fossil fuel projects was smaller than the amount of funds allocated to renewable energy project. Hence, in these regions ERDF and CF contributed relatively to the development of a low carbon economy. However, in the regions of Rhodope and Akrata the share of funds allocated to fossil fuel project was larger than the amount of funds allocated to renewable energy projects. Hence, a low carbon economy was not fully supported in these regions through ERDF and CF.

Total waste per capita (2014)



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Total waste in kg per capita (2014)

- 0 - 1300
- 1300 - 1700
- 1700 - 2000
- > 2000

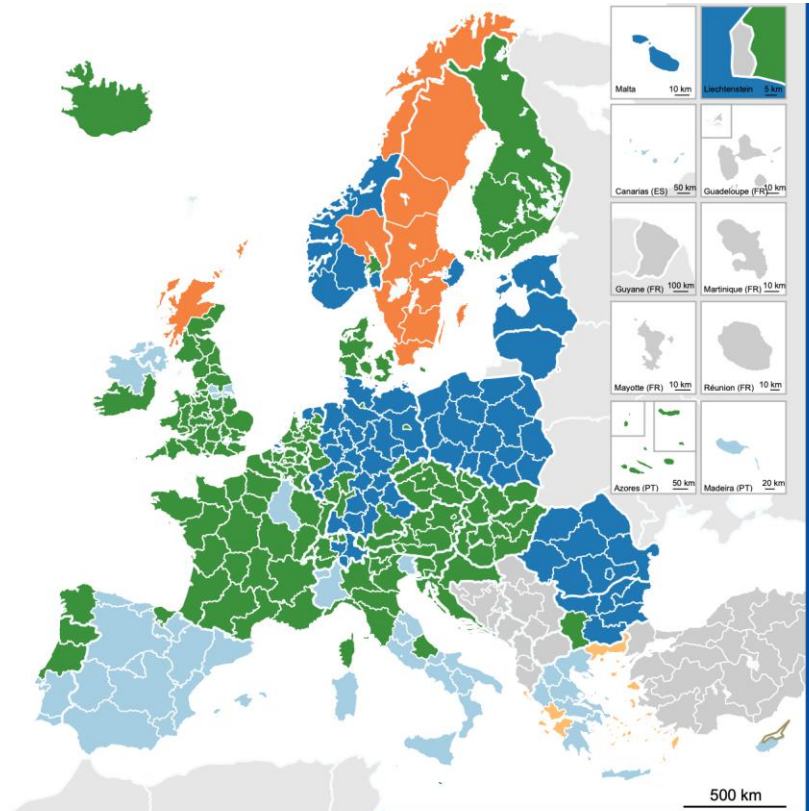
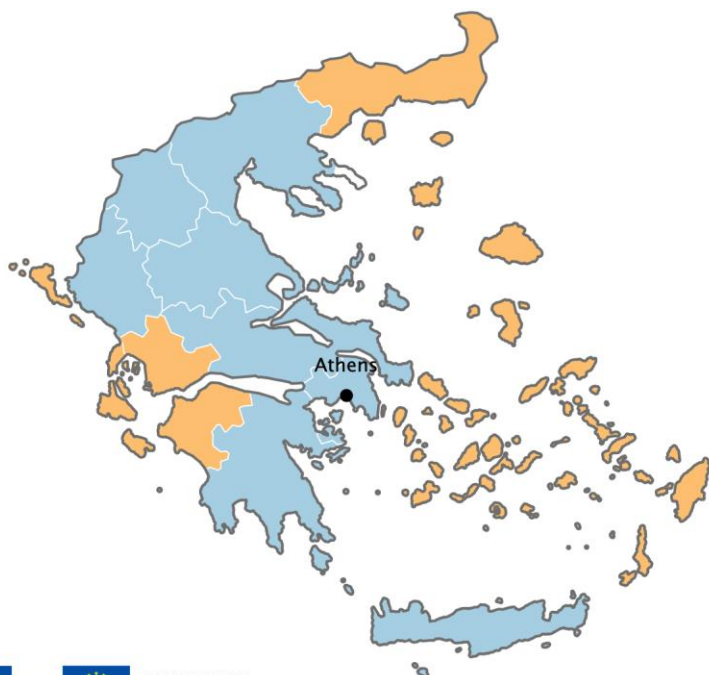
Source: CIRCTER, 2018
 Origin of data: Eurostat, CIRCTER, 2018

Moderate levels of waste produced per inhabitant in Greek regions

The European Commission promotes a transition to a circular economy. This entails an economic model in which waste becomes obsolete and in which materials can be reduced or re-used. In that sense, the share of waste produced per inhabitant in European region provides an indication on the challenges and opportunities for such a transition, keeping in mind that data origins and collections methods differ largely by country. Per capita more waste is produced in Europe's most populous and industrial regions in 2014, among which regions in the Netherlands, Belgium, Switzerland, Finland, Italy, Poland, Norway, Estonia and Bulgaria.

Waste production per capita in Greek differs per region. More waste is being produced in the most urban and populous regions including Athens, Peloponnese, Central Greece, Thessaly and Central Macedonia. Similar patterns can be found in other European countries. Surprisingly, the share of waste produced is moderate on the islands, despite large inflows of tourists, which generally imply larger amount of waste against the population. This is explained by the absence of resource-intensive industries on islands compared to the mainland, especially on islands with low resident population.

Decoupling domestic material consumption from GDP (2006 - 2014)



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 Regional level: NUTS 2 (2013)
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200 km

500 km

- Decoupling DMC per capita from GDP per capita**
- 0 < Change GDP < Change DMC
 - Change DMC < Change GDP < 0
 - Change GDP < Change DMC < 0
 - Change DMC < 0 < Change GDP
 - 0 < Change DMC < Change GDP
 - no data

Source: ESPON CIRCTER, 2018
 Origin of data: CIRCTER, 2018
 DMC: Domestic Material Consumption
 GDP: Gross Domestic Product

Partial success to decouple material consumption and GDP in Greece

Decoupling of material consumption from GDP refers to increasing economic growth and decreasing use of resources. Many European regions decreased their domestic material consumption (DMC) and saw an increase of GDP between 2006 and 2014 (green). These regions used resources more efficiently without harming GDP growth. Regions in Spain, southern Italy, Greece and Cyprus decreased their DMC but saw also a decrease in GDP. Resource efficiency has increased but through an economic downturn. Regions in Baltic countries, Germany, Bulgaria and Romania saw an increase in DMC which was lower than the increase in GDP. Regions in orange had greater increase of DMC than GDP. These economies did thus not become more resource efficient between 2006 and 2014.

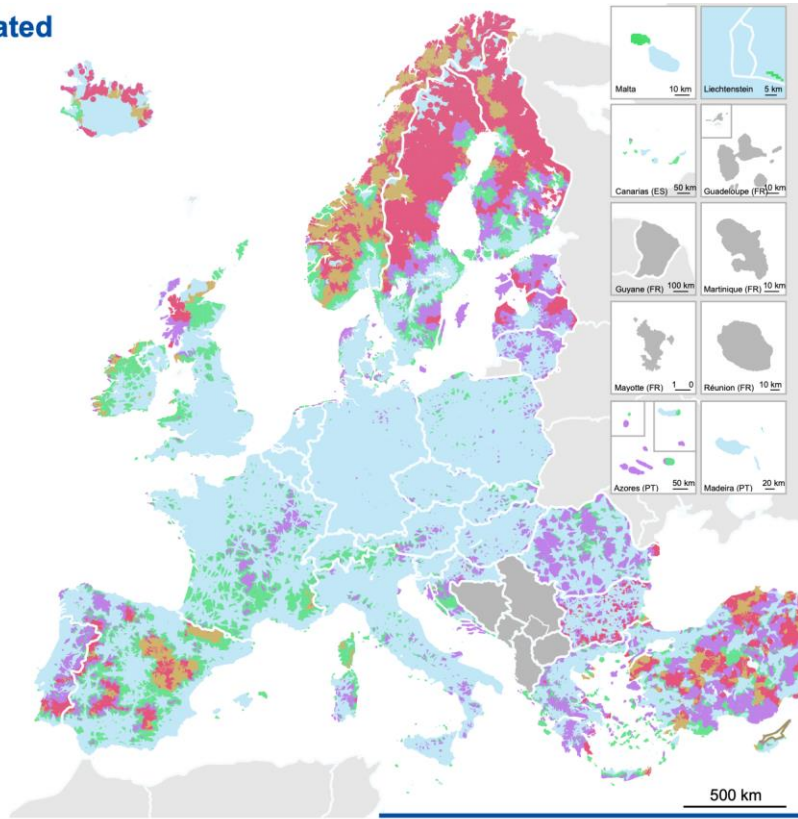
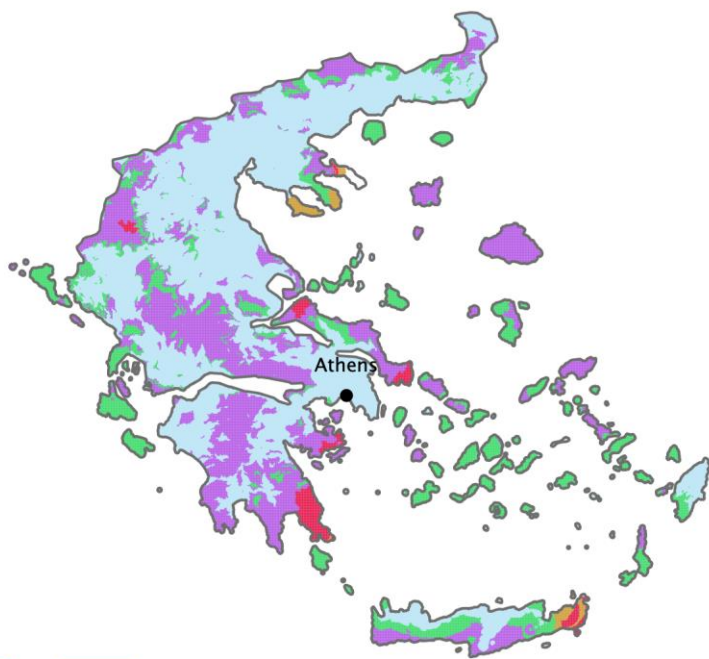
Decoupling domestic material consumption from GDP has only partially been reached in Greece between 2006 and 2014. In a shrinking economic context for all Greek regions resulting from the economic and financial crisis, most regions managed to decrease the level of Domestic Material Consumption more than the decrease of GDP. In these regions, despite the economic and financial crisis some levels of resource efficiency were met. However, in Eastern Macedonia and Thrace, Western Greece and all island regions except for Crete the reduction of DMC was smaller than the reduction of GDP, suggesting limited resource efficiency gains in these regions between 2006 and 2014.



More connected Europe

Sparsely populated areas and areas at risk of becoming sparsely populated
Relative population potential change in islands (2001-2011)

Sparsely populated areas and areas at risk of becoming sparsely populated



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Current SPAs (population potential < 100,000 residents)

- SPA in decline
- SPA with stable *or growing *population potential

■ No data available

Other areas with low population potential (< 125,000 residents)

- Areas at risk *of becoming SPAs
- Areas with low, *but stable or growing*population potential

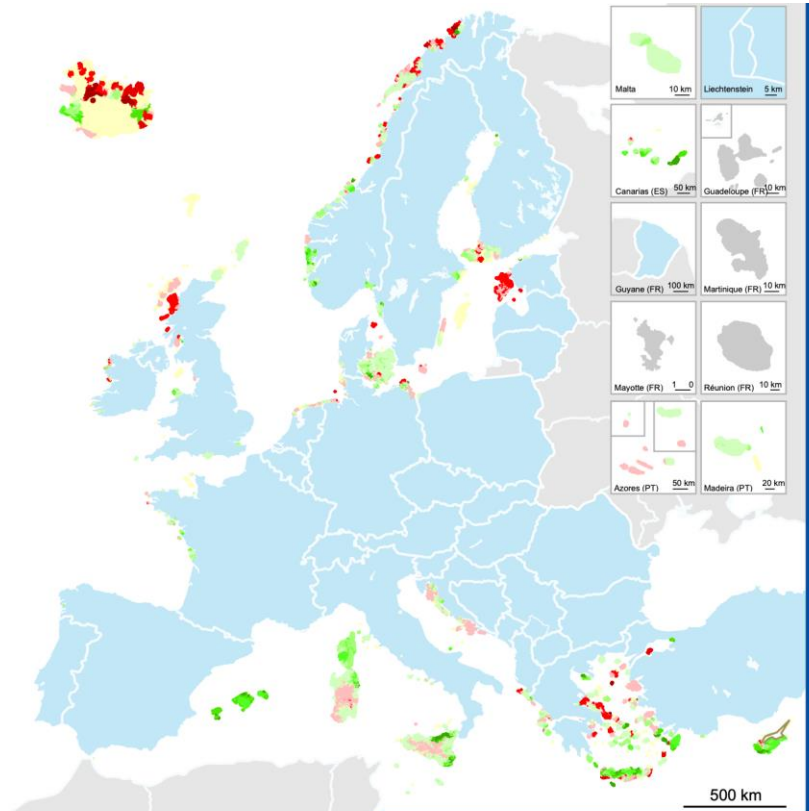
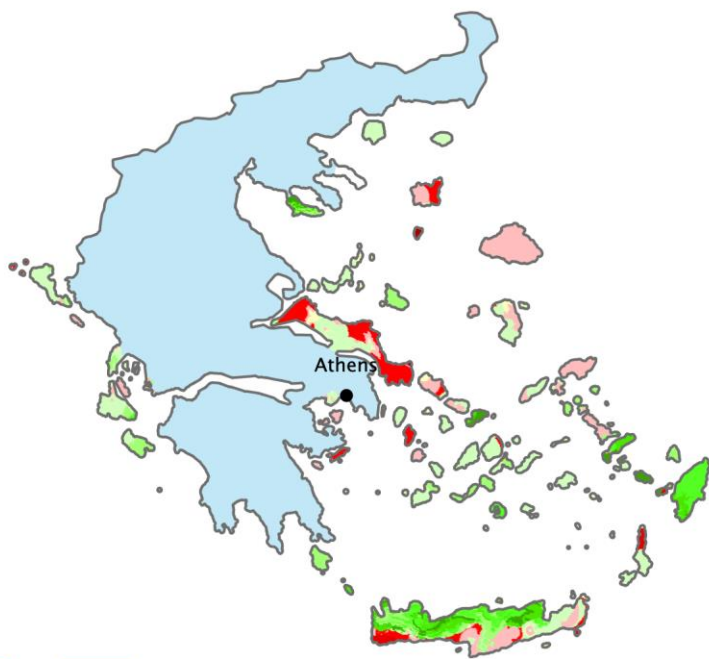
Source: ESPON BRIDGES, 2019
Origin of data: TCP International, 2019, ESPON GEOSPECS, 2012, RRG GIS Database, 2018

Mountain areas on Greece's mainland at risk of becoming sparsely populated

SPAs were delineated on the basis of population potentials, i.e. the number of persons that can be reached within a maximum generally accepted daily commuting or mobility area from each point in space. Two approaches were used: 1) to delineate SPAs, based on the possibility to commute 50 km from a point in all directions; 2) to delineate "poorly connected areas", based on population potential using 45-minute travel times along road networks. SPAs cover 24.7% of the ESPON space and 3.7% of its population. A dual process of urbanisation and dispersion is taking place in Europe's northern periphery, with many peripheral towns experiencing population growth. The map also shows extensive areas "at risk of becoming sparsely populated areas".

Very few Greek areas can be considered as sparsely populated due to low population potential, meaning that less than 100,000 people can be reached in commuting time. These areas can be found in Kallikratias-Moudanion in Chalkidiki, the eastern parts of Crete, Laconia and the outer edges of the island of Euboea. However, many areas in Greece are at risk of becoming sparsely populated areas. This is especially the case in those areas in purple where population potential is below 125,000 residents and is declining. This can mostly be observed in islands, e.g. Lesbos, Lemnos, southern Crete, and mountainous areas (Peloponnese, Pindus). Attractivity and efficient transport connections are key to support local demographics.

Sparsely populated areas and areas at risk of becoming sparsely



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Relative population potential change in islands between 2001 and 2011



Source: ESPON BRIDGES, 2019
 Origin of data: TCP International, 2019; ESPON GEOSPECS, 2012; RRG GIS Database, 2018

Island population potential grew most in tourism centres

Europe covers a diversity of islands each with their own characteristics and governance arrangements, in close proximity or far away from the mainland. A common challenge to islands refers to a lack of critical mass for resource inputs or consumer base. This often restricts the capacity of island SMEs to exploit economies of scale, scope and diversification. A decreasing population potential may enhance such negative aspects of insularity. Population potential measures the number of people that one can reach in a 45-minute travelling area. Smaller islands or non-tourism island experienced decline in population potential between 2001 and 2011. Examples of islands with a decreasing population can be found all across Europe.

Population development is diverse on Greek islands. On most islands the population potential grew between 2001 and 2011. Population potential increased particularly on the Dodecanese islands and Cyclades as well as on the northern and most urban parts of Crete. On the contrary, population potential decreased on the Saronic and North Aegean island as well as on Euboea. Population development on the Ionian islands is diverse with population potential increase in and around tourist centres and decrease on the more remote places of the islands. This suggests increasing demographic disparities between and on islands.



More social Europe

Youth unemployment rate, 18-24 years old (2016)

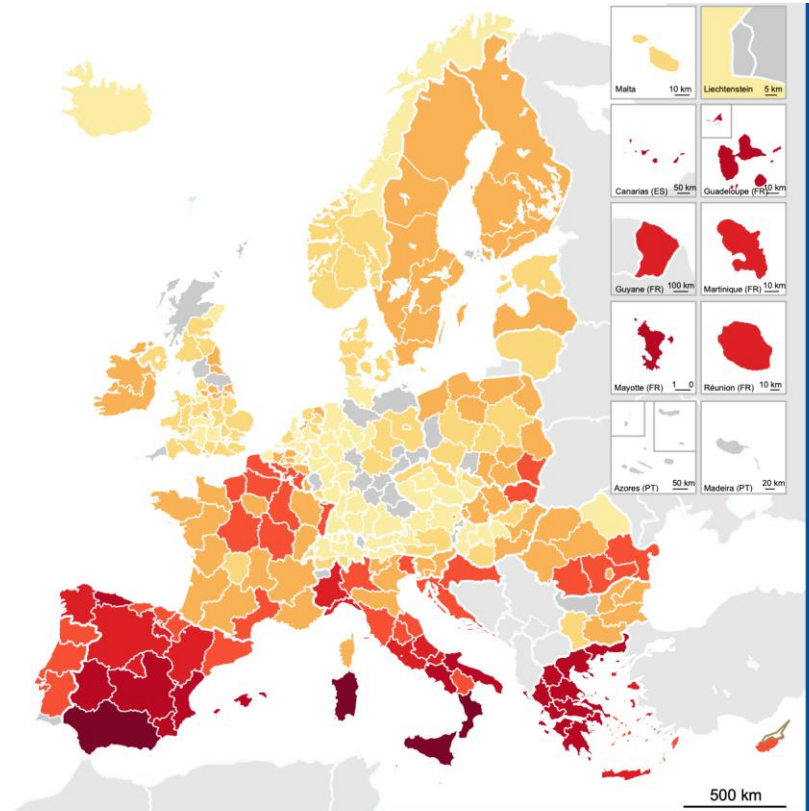
Net migration (2014)

Out-Migration and Higher Education (2014)

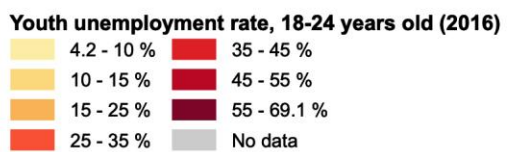
Out-Migration and Unemployment rate (2014)

Asylum applications (2016)

Youth unemployment rate, 18-24 years old (2016)



ESPON © ESPON, 2020
 Regional level: NUTS 2 (2013)
 UMS RIAGE for administrative boundaries
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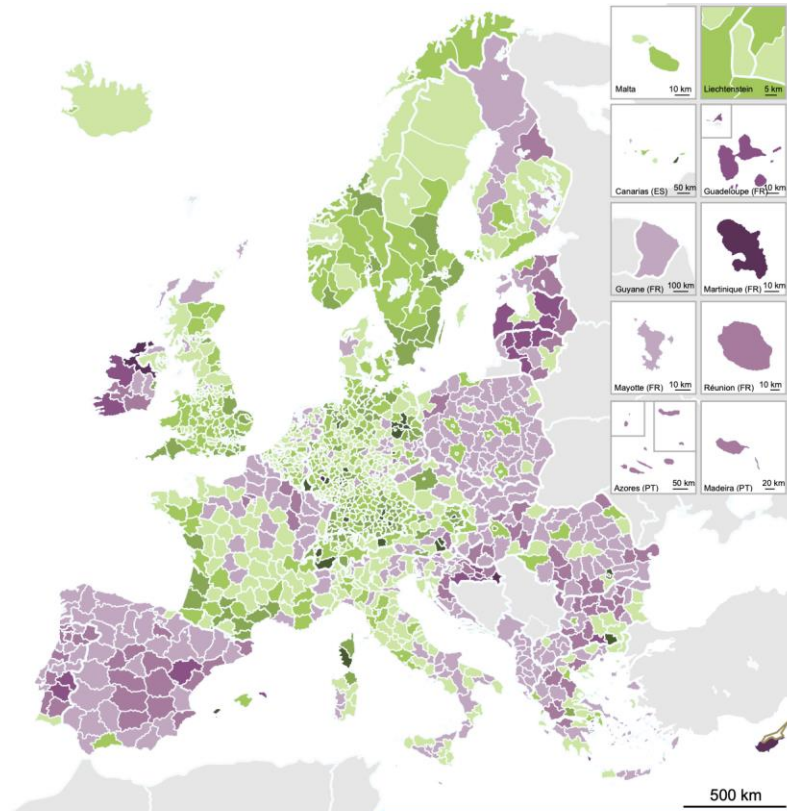
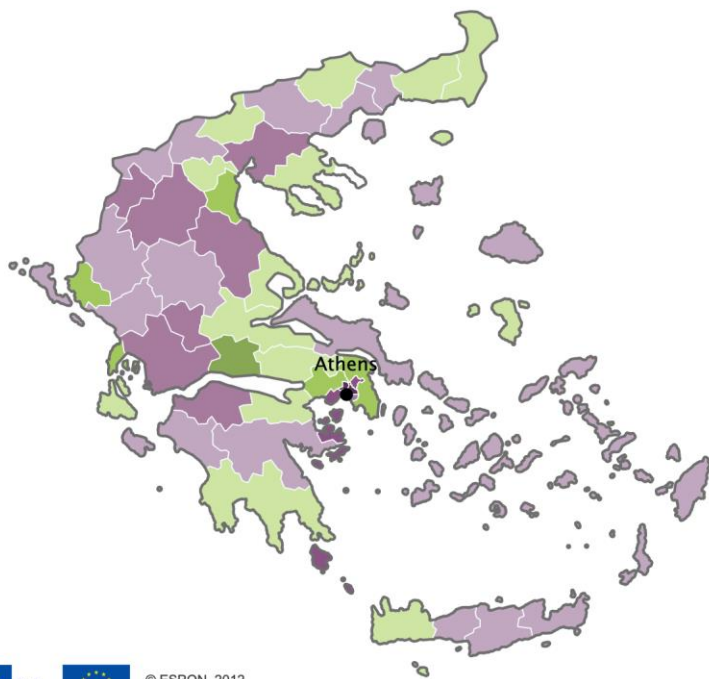
Source: ICON-INSTITUT
 Origin of data: Eurostat

High levels of youth unemployment in Greece

Levels of youth unemployment rates reflect both the capacity of the economy to welcome newcomers (with or without diploma) and the intensity of the economic crisis that followed the 2008 financial crisis. Highest rates of youth unemployment are recorded in Mediterranean Europe (Spain, Italy, Greece, Croatia) as well as in groups of regions that have seen their industrial economic basis weaken during the last decade (southern Romania, except Budapest, northern France, except Ile de France, Subcarpathia in Poland, Eastern Slovakia. Lowest rates are found in Germany, the Netherlands, Switzerland, Austria and Czech Republic.

Greek regions have among the highest levels of youth unemployment in Europe. The share of youth unemployment against total unemployment is only higher in The Spanish regions of Andalusia and Italian regions of Calabria, Sicilia and Sardegna. The share of youth unemployment is relatively higher on mainland Greece and slightly lower on the islands of the North Aegean, Crete and the Ionian Islands. The share of youth unemployment is lowest on the South Aegean islands. A lower ratio of youth unemployment on the islands may be explained by the importance of tourism, which may provide opportunities for unskilled and seasonal jobs.

Net migration (2014)

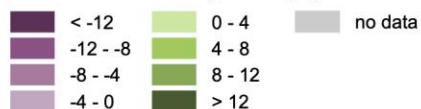


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200 km

500 km

Crude rate of net migration (%)



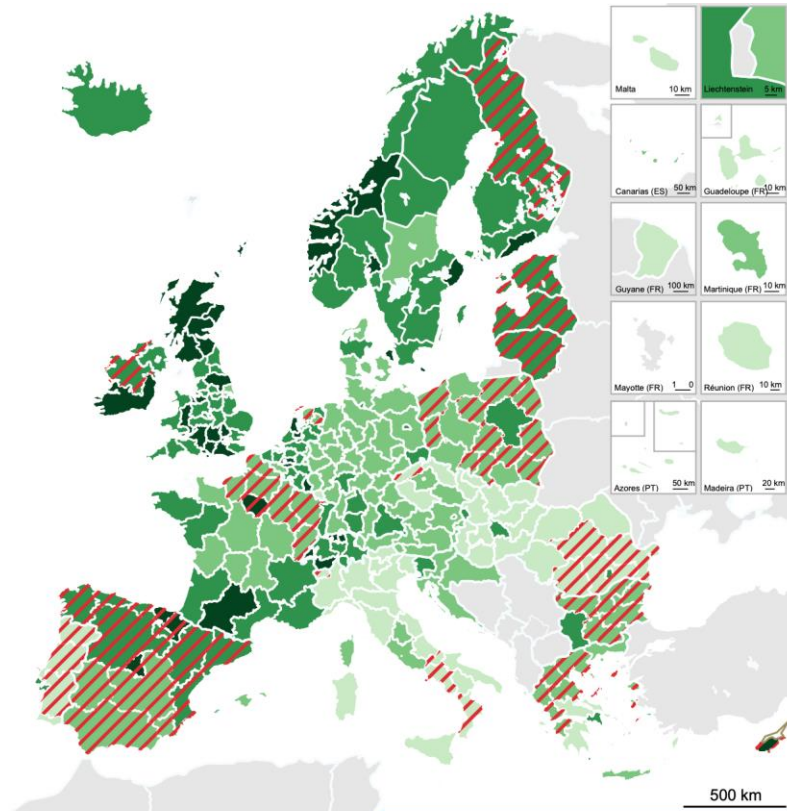
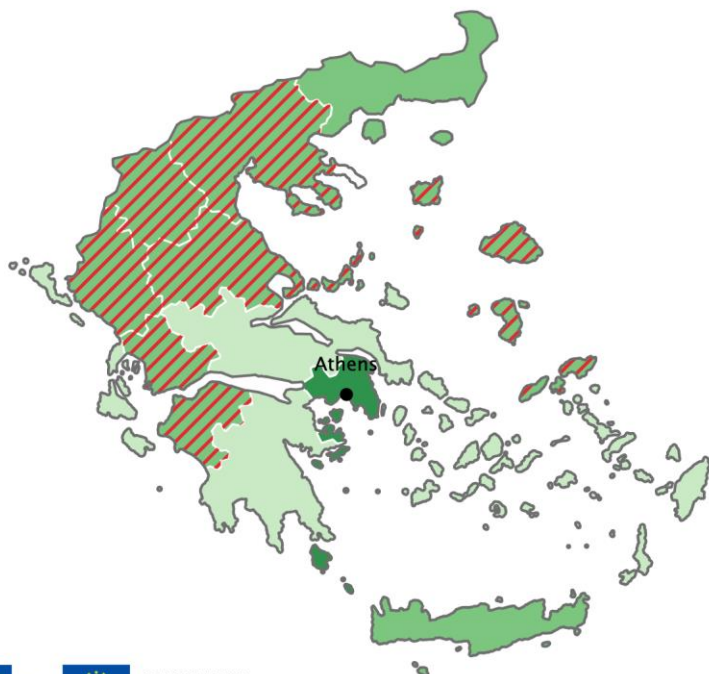
Source: Spiekermann and Wegener Urban and Regional Research (S&W), Territorial Futures, 2017
 Origin of data: Eurostat (online data code: demo_r_gind_3), 2014

Cities among the areas with positive migration balances in 2014

Migration plays an important role in the population dynamics of cities and regions in Europe. At European level, an east-west and core-periphery divide is visible. A positive migration balance is seen in the north-west Europe, Sweden and Norway, south of Finland, most of Germany and north of Italy, as well most of the UK and south of France. This is mostly visible around urban areas in these territories. Negative migration balances are observed across the Mediterranean, e.g. in Portugal, Spain, south of Italy, Greece and Cyprus. They are found in eastern parts of Europe, Ireland and north France. These negative balances are particularly strong in predominantly rural regions.







The migration balance of Greek regions follows largely the European trend. In general, in urban areas, persons that left were outnumbered by new residents arriving from other locations. Some intermediate regions also recorded a positive migration balance in 2014, among which Phocis, Thesprotia and Pieria. The balance is negative in most islands, except in Chios and Kefalonia the largest islands of respectively the North Aegean and the Ionian islands. Rural and mountainous regions had mostly negative migration balances. However, the relative population loss as result of (domestic and international) migration was less severe than in some other European rural regions in Spain, Portugal, Croatia, Ireland, Latvia or Lithuania.

Out-Migration and Higher Education (2014)



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Out-Migration and Higher Education (2014)
Higher Education (% of total population) Net Migration

	0 - 10		Sending regions
	10 - 20		
	20 - 30		
	30 - 40		
	> 40		

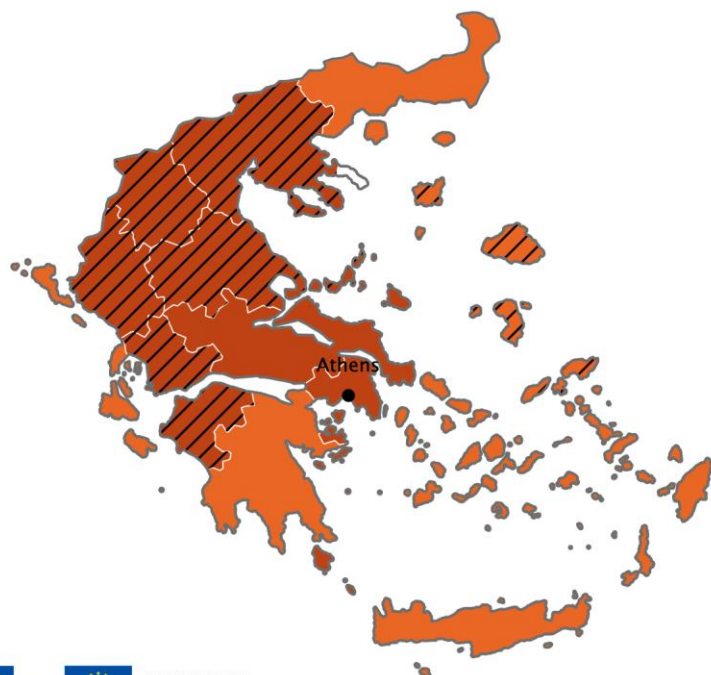
Source: IRS Milano, IES Brighton, IRS Erkner (2017)
Origin of data: Eurostat, 2016

Rural and mountain regions at risk of brain drain

A combined view of higher education levels in European regions and regions with out-migration illustrates a risk of brain-drain. Brain-drain occurs when high skilled, often young people, leave an area to seek better opportunities elsewhere. In 2014, most Eastern European regions as well as Portugal and Spain had a negative migration balance and were thus sending regions. Only some capital regions or larger urban regions had a positive migration balance including Sofia, Budapest and Warsaw. Sending regions that have a high share of population with higher education degrees risk most brain-drain effects, such as Northern Spain and Madrid, Cyprus, and the Baltic States. In other sending regions, this effect may already be in place.

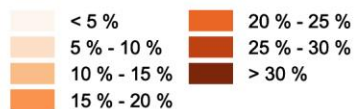
Rural and mountainous regions as well as most island regions are at risk of brain drain. Rural and mountainous regions in north-western Greece as well as the North Aegean and Dodecanese islands have highest shares of population with higher education levels. At the same time these regions lose more population due to migration than they receive. Hence the risk of brain drain effects is higher than in other parts of the country. The other NUTS2 regions did not experience a net out-migration. Yet the share of people with higher education levels is lower than in most other European regions, particularly compared to northern and western European regions and regions in the north of Spain.

Out-migration and unemployment rate (2014)



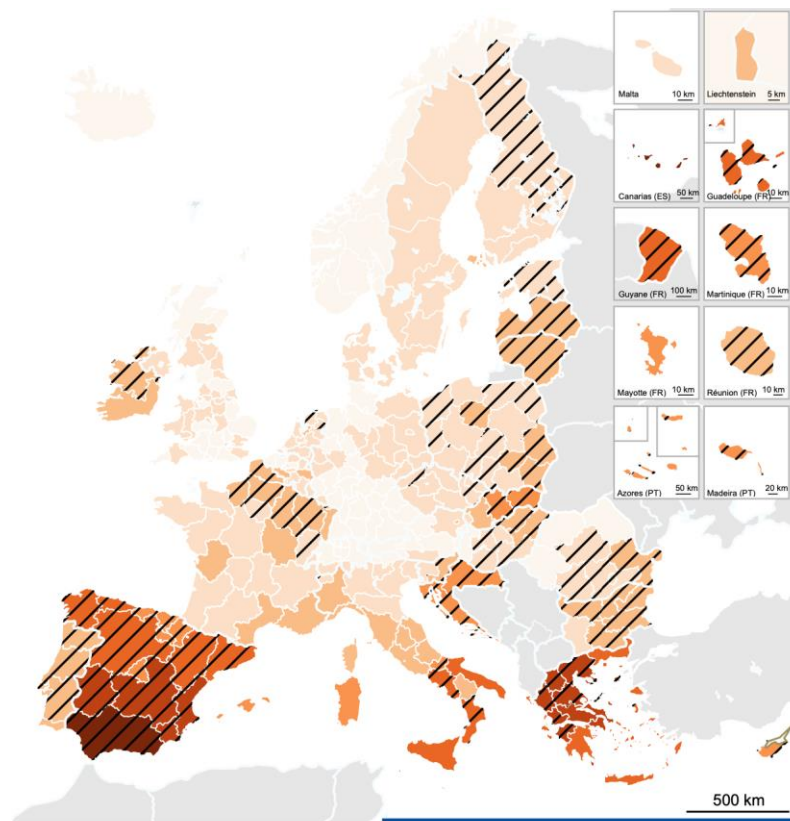
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Unemployment rate (% of economically active population), 2014



Net migration, 2014

 Sending regions



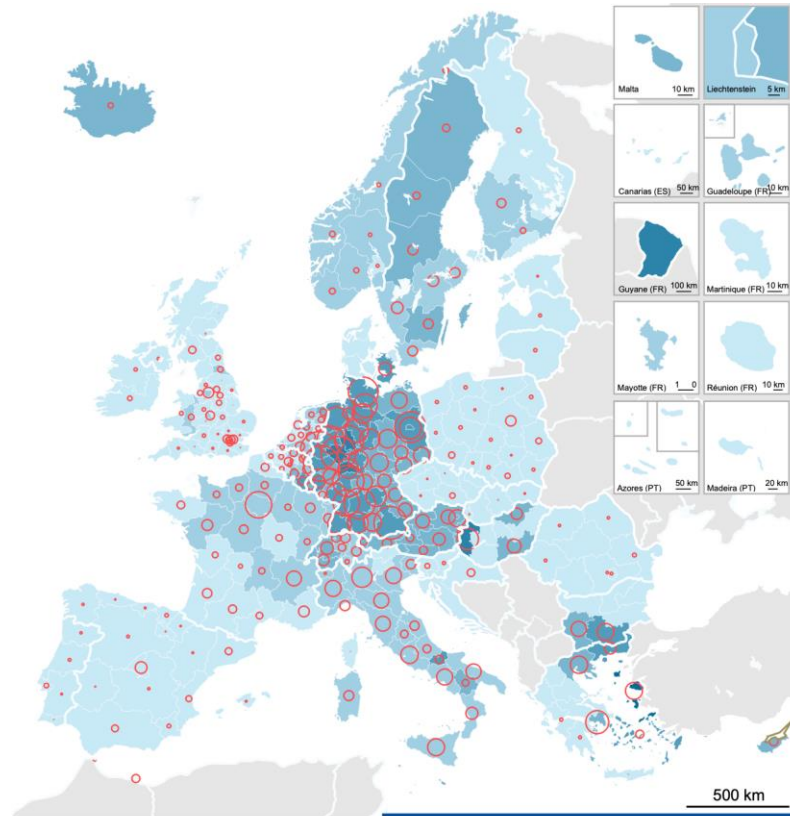
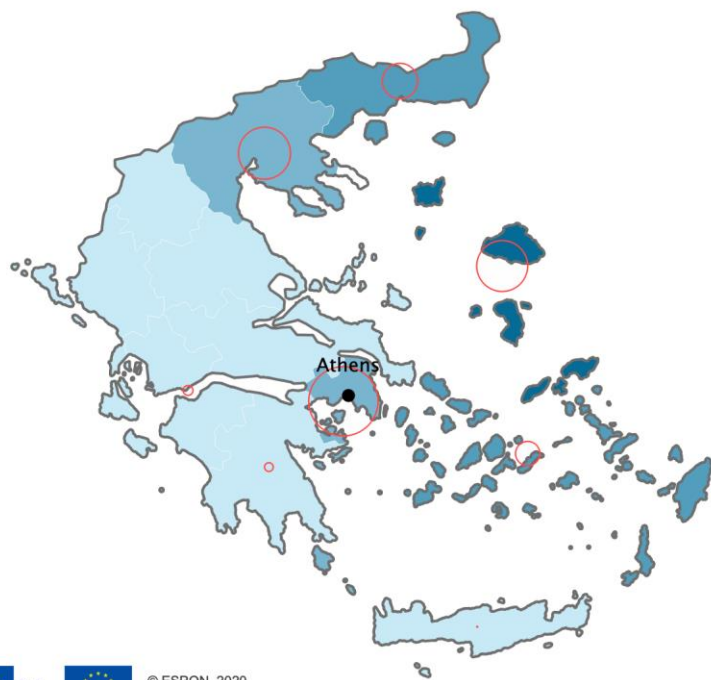
Source: ESPON Geographies of New Employment Dynamics (2017), IRS Milano, IES Brighton, IRS Erkner (2017)
 Origin of data: Eurostat, 2016

Unemployment not a main driver for migration in Greek regions.

Unemployment can be a push factor for people to leave their region and seek better opportunities elsewhere. In 2014, regions in southern Europe had highest levels of unemployment in Europe partly due to the economic and financial crisis and austerity measures that were taken to contain the crisis. Most of these regions also had a negative migration balance, meaning that more people left the region than entered. However, also many other European regions had a negative migration balance but lower unemployment rates, notably in Eastern European countries as well as some regions in northern and western Europe. Hence, unemployment is not the sole factor for emigration.

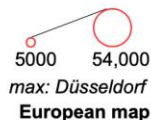
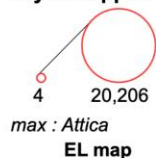
Greek regions had unemployment rates higher than average in Europe in 2014. These were particularly high in Central and Western Macedonia, and Western Greece. This may have caused some migration within Greece or from Greece to other places. In particularly rural and mountainous regions in north-western Greece had high unemployment rates and a negative migration balance suggesting a relation between the two. At the same time Crete, Peloponnese, the Ionian island and Eastern Macedonia and Thrace had positive migration balances. This may suggest an inflow of unemployed from elsewhere to more urban places, like Athens, or suggest that other factors than unemployment have been more important for migration patterns.

Asylum applications (2016)



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Asylum applications



Applications per inhabitants



Origin of data: Eurostat, 2018
Source: ESPON MIGRARE, 2018

High numbers of registered asylum seekers in Athens, Thessaloniki and on Lesbos

In 2014 the number of non-EU migrants sharply increased in Europe leading to large and numerous policy debates on migration in 2015 and 2016. In particular, the number of migrants and refugees crossing the Mediterranean increased in these years. However, not all migrants stayed in the regions around the Mediterranean Sea as illustrated in the map. East Mediterranean regions have second highest levels of asylum seekers in 2016 behind German regions. The map illustrates mainly national patterns with few exemptions with higher national average number of asylum seekers in Paris, Lyon and Copenhagen. A region's socio-economic profile seems to be less of influence determining registrations of asylum seekers.

Greece is one of main gateways for migration in Europe. This became particularly visible in 2015-2016 when the number of migrants crossing the Mediterranean sharply increased. Some migrants left Greece soon after arrival and went further to other European regions. Many other migrants remained in Greece and sought asylum. Whereas large cities have generally capacities to host asylum seekers awaiting the end of their procedure, the large number of asylum seekers on Lesbos caused more challenges. A sharp increase in the demand for food and housing weighs heavily on the island community. These challenges are shared with many other islands.



Europe closer to citizens

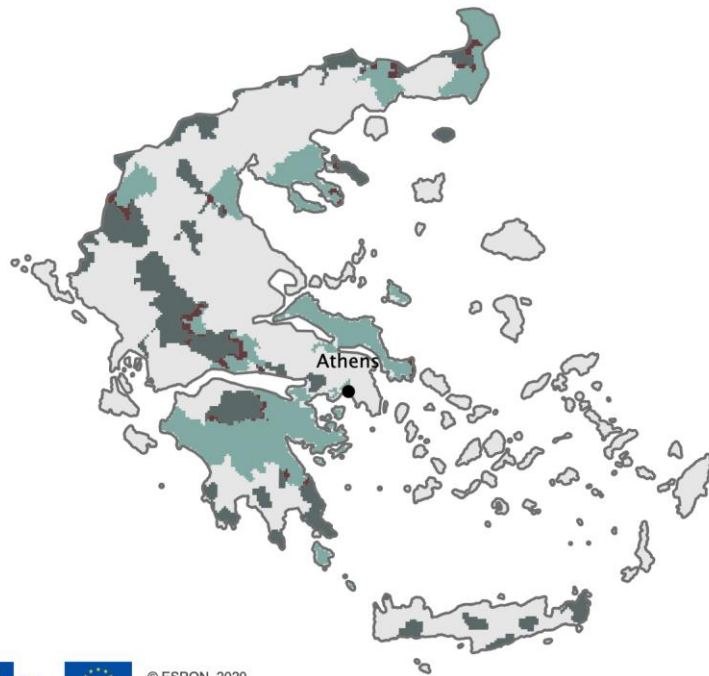
Inner peripherality by main driver

Tentative GDP-related cohesion effects of European disintegration (2030)

A fragmented Europe? An interregional comparison of income





European quality of government index (2017)

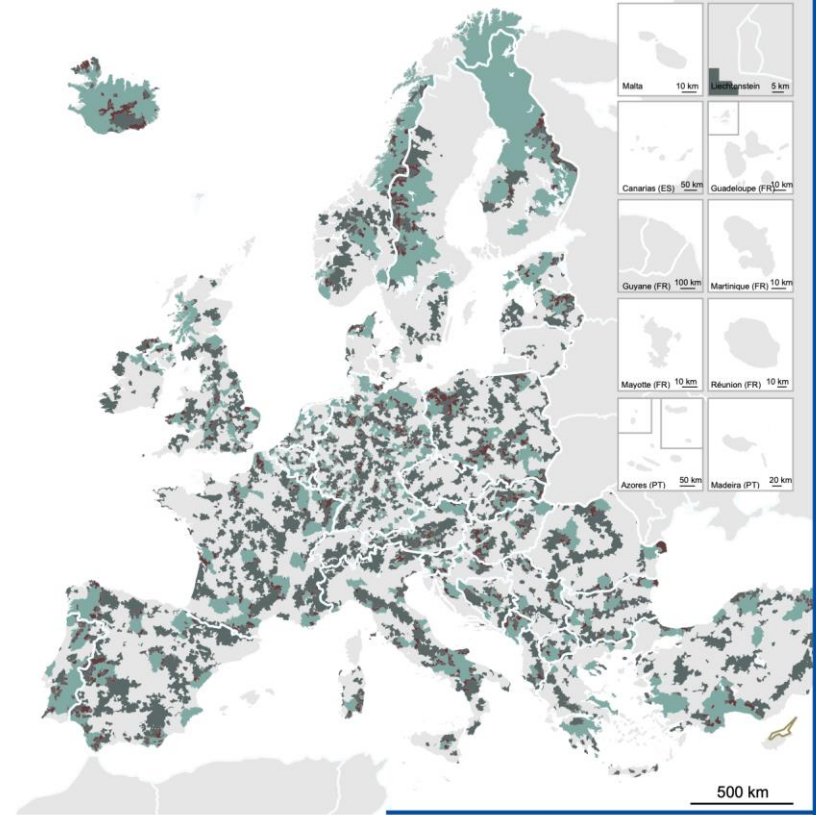
Main socio-economic drivers for inner peripherality



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Main socio-economic drivers of inner peripherality

-  Poor economic potentials and poor socio-economic situation
-  Main driver: lack of access to centres and/or services
-  Main driver: poor accessibility and poor economic potentials/poor socio-economic situation
-  Not an IP area



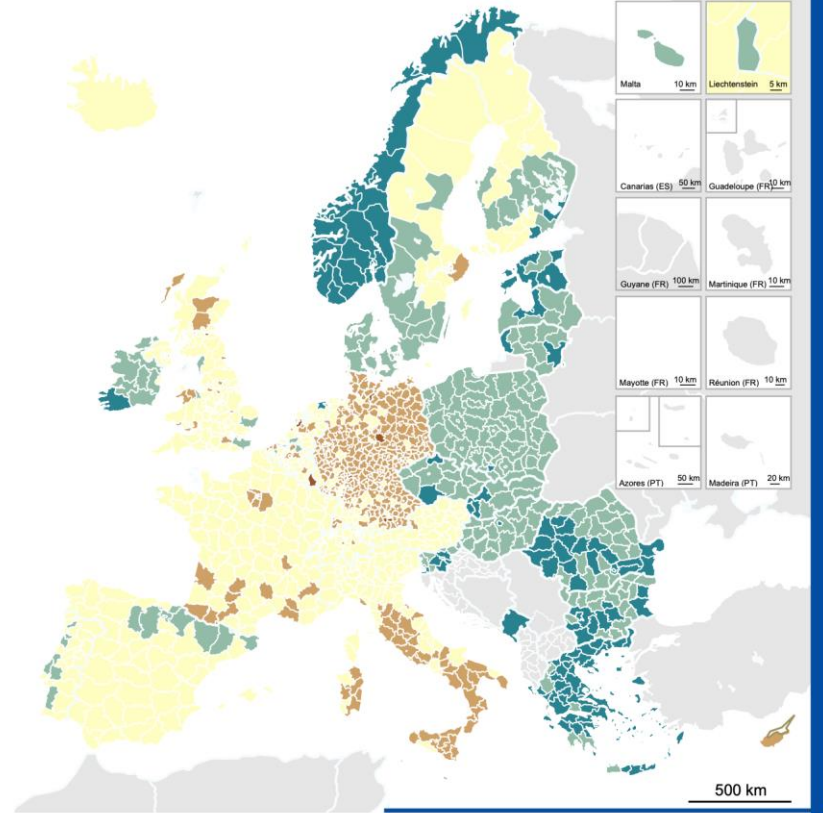
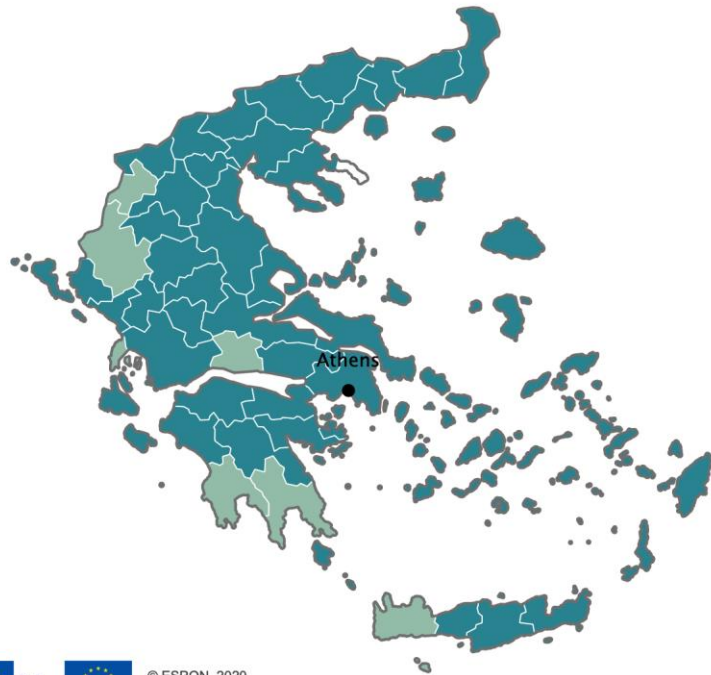
Source: ESPON PROFECY, 2017
Origin of data: TCP International Accessibility Model, 2017

Diverse characteristics determine inner peripheries in Greece

Around 45% of the ESPON territory represent inner peripheries, of which two third due to one delineation only, and one third due to two or more delineations. IP areas with a lack of access (to centres or services) as key driver account for some 45% of all IP areas or 20% of entire ESPON space). The main driver in most Scandinavian and Icelandic IP areas is not a lack of access, but their poor economic and demographic basis, (lack of demand). Similar cases are found in East Germany, Baltic States, Turkey, southern Italy, Portugal, parts of Spain, Scotland and parts of eastern Europe. IP areas triggered both by poor access and poor economy and demography (approx. 9.4% of all IP areas) are scattered around Europe in small patches.

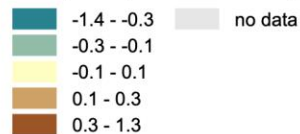
Large parts of Greece can be defined as inner peripheries, yet for different reasons. Large parts of Peloponnese as well as Chalkidiki can be considered as inner periphery due to low socio-economic perspectives, meaning a long distance to regional centres and negative economic outlooks. Similar areas can be found in Scandinavia, rural Portugal and France. Mountain areas in central and northern Greece as well as on Crete can be defined as inner periphery on the basis of their lack of services of general interest, similar to large parts of the Alps, Apennines in Italy or rural areas in Germany. Few patches of inner periphery combine both types of drivers in Greece, mostly in remote mountainous areas in central Greece.

Tentative GDP-related cohesion effects of European disintegration



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GDP per capita - Index change in relation to the EU average



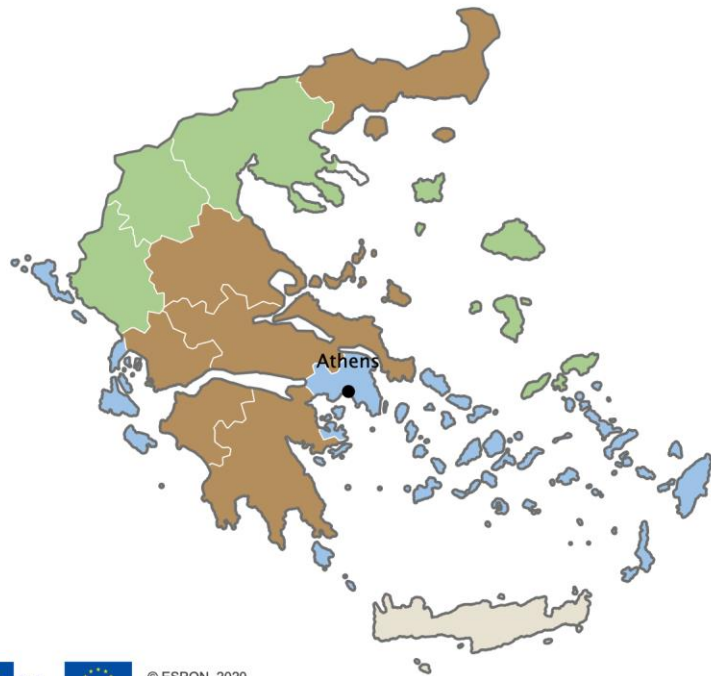
Source: Spiekermann and Wegener Urban and Regional Research (S&W), Territorial Futures, 2017
Origin of data: SASI Model

Mixed levels of territorial cohesion in case of European disintegration

European integration processes seem to come to a halt, as illustrated by the BREXIT and current tendencies to temporarily close borders and thus ignoring the Schengen agreement. Such disintegration effects affect the European economy by increasing waiting times at borders and limiting potentials for political and cultural integration. The impacts of these effects have been modelled assessing the impact on regional GDP levels. The impacts of disintegration on territorial cohesion are negative as many of current lagging regions would face stronger reduction of GDP (compared to the European average). On the contrary, some of Europe's economically stronger regions could benefit of such a situation (e.g. in most of Germany).

European disintegration, by closing the internal borders and giving up the ideas of the European Single Market would have a more than average negative effect on Greece's economy that would affect all regions. On European level this implies increasing regional disparities, in particular since the GDP of many western European countries will be less affected or will increase, most notably in Germany. However, in Greece, regional disparities may decrease. The current most prosperous regions in the north, around Athens and island regions may experience more decrease of GDP than some rural and mountainous regions.

A fragmented Europe? An interregional comparison of income

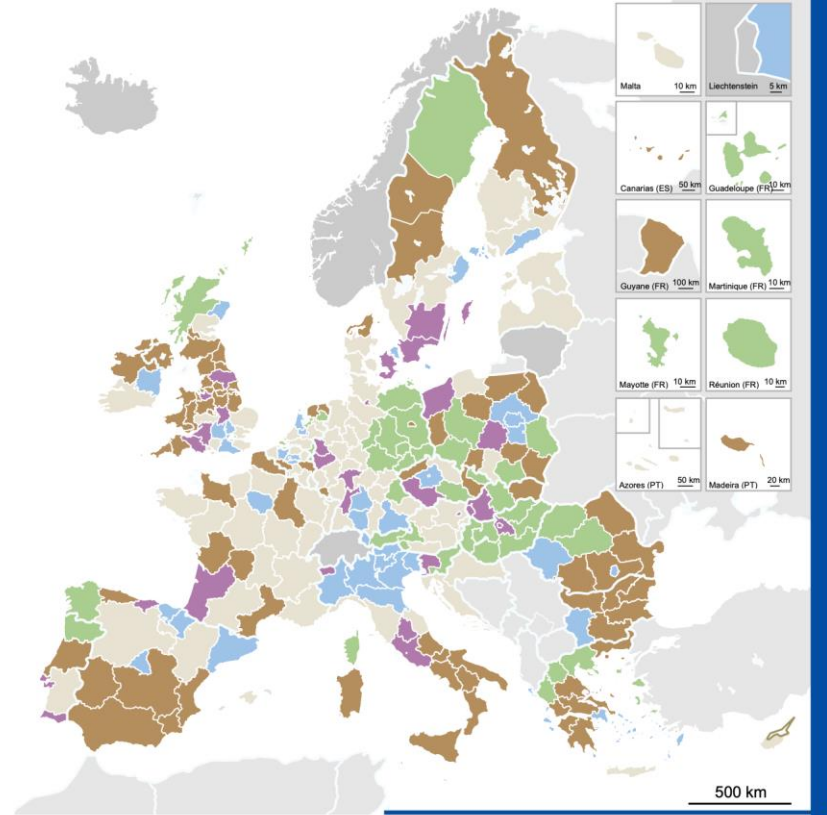


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Income per capita 2016,
classification by distance
to national average



Annual growth of income per capita 2006-2016,
classification by distance to national average in
percentage points



Source: ESPON Territorial Reference Framework, Spatial Foresight, 2019

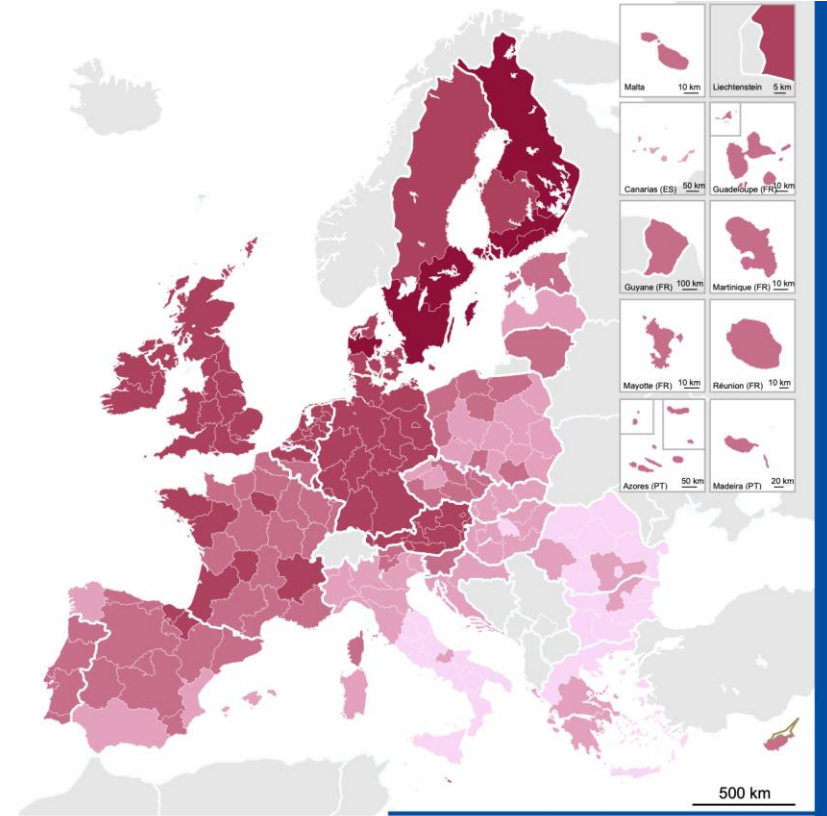
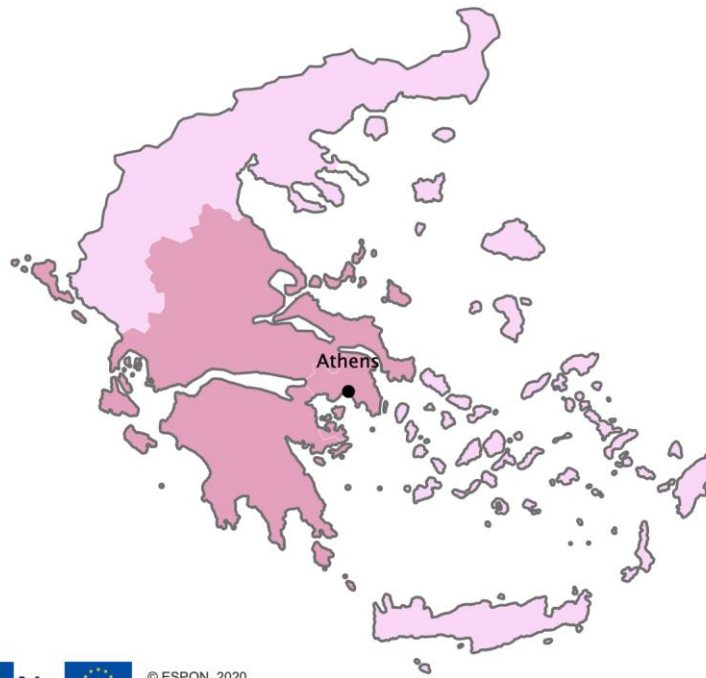
Origin of data: Eurostat, 2019, dataset: nama_10_r_hhinc
Data on primary income per capita in PPS was used (Eurostat dataset: nama_10_r_2hhinc).
Income per capita is based on 2016 figures, except for France, the Netherlands, Poland (2015), Bulgaria, Denmark, Italy and Slovenia (2017).
Annual income growth is based on 2006 and 2016 figures, except for France, the Netherlands, Poland (2006-2015), Bulgaria, Denmark, Italy and Slovenia (2006-2017).
Data for the NUTS 2016 classification was not available for two Polish regions (Warszawski stoleczny, Mazowiecki regionalny), so the NUTS 2013 unit was used (region of Mazowieckie).
Data was not available for NUTS 2016 regions of Lithuania (April 2019).
Countries with only one NUTS2 region were assigned to the median profile (CY, EE, LI, LU, LV, MT).

Overall increasing regional income disparities in Greece

Fragmentation is a key challenge in Europe today. A starting point to understand the drivers towards fragmentation and depict the population's well-being, is looking into trends in primary income per capita at national level. Different national profiles stand out. Some countries are becoming more fragmented with a large number of lower income regions being "left-behind", e.g. in Spain, Italy, the UK, Romania and Bulgaria. A second category appears to be less fragmented with several regions "catching-up" with others, e.g. in Hungary or Germany. Other countries have more diversified regional pathways, depending on each regions' economic resilience during the crisis, e.g. Poland, the Netherlands, Sweden.

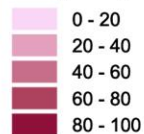
Regional disparities increase in Greece considering primary income per capita. Regions with the lowest income levels, i.e. Western Greece, Peloponnese, Thessaly and East Macedonia and Thrace, saw a decrease in income levels between 2006 and 2017. At the same time, Athens and the Dodecanese have highest income levels and saw an increase between 2006 and 2017. Comparing these two types of regions may suggest that the first is leaving behind and the latter becomes front runners in well-being. Exception are regions in northern Greece, including the North Aegean Islands that have generally lower income levels than Athens or the Dodecanese but are catching up.

European quality of government index (2017)



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European quality of government index (2017)



200 km

500 km

Source: ESPON EGTC
Origin of data: The Quality of Government Institute, 2017

Degraded perception of quality of government in Greek regions

The European Quality of Government index depicts citizens' perceptions of public authorities and institutions. The index assumes a qualitative government as being impartial, efficient and without corruption. A qualitative government may stimulate socio-economic development and respond adequately to new challenges or events. In 2017, regions in northern and western Europe have highest levels of quality of government, particularly Finnish, Danish and Dutch regions. Regions in central Europe, Portugal and Spain have moderate quality of government. south-eastern European countries have lowest levels of quality of government, particularly in Bulgaria, Romania and southern Italy.

Regional quality of government in Greece are rated below the European average. These are particularly low in Northern Greece with a score of 12 on a scale from 0 for the worst performing European region to 100 for the best performing European regions. The quality of government for the Aegean islands and Crete is 17.4, Central Greece scores 22.4 and Athens scores best with 22.9. These scores have gradually decreased since stocktaking in 2010 and 2013. The financial and economic crisis and subsequent austerity measures may have impacted citizens' perception on the quality of government.

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