

Policy guidelines for regions falling under the new regional competitiveness and employment objective for the 2007 - 2013 period in the fields of the knowledge economy and the environment, in line with the Lisbon and Gothenburg objectives

Call for tenders by open procedure N° 2004 CE 16 0 AT 039

**Policy guidelines for regions falling under the
new regional competitiveness and
employment objective
for the 2007 - 2013 period**

Vol. II Country Report. GREECE

Prepared for:
European Commission
DG REGIONAL POLICY

December 2005

Conception and analysis, accession negotiations unit

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The Team takes full responsibility for the data, information and judgments expressed in the present report.

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
1. Scope and methodology	9
1.1 Aim of the report	9
1.2 Methodology for context analysis	9
1.3 Structure of the report	10
2. General economic conditions	13
3. Innovation and knowledge economy	17
4. Accessibility	19
4.1. Access to transport infrastructure	19
4.2. Access to telecommunications and information technologies	25
5. Environment and risk prevention	29
6. Implementation of Structural Funds	33
6.1. The 2000-2006 Structural Funds Programming period	33
6.2 Implementation of regional polices: lessons learnt	34
7. Policy priorities assessment	37
7.1. Findings from the statistical analysis	37
7.2. Findings from the field analysis	38
ANNEX I: Methodology for transport indicators	57
ANNEX II: Telecom indicators levels	61
ANNEX III: Methodology for environment indicators	63
ANNEX IV: Bibliography and sources of information	65

LIST OF ACRONYMS

CIS	Community Innovation Survey
DG Regio	Directorate General of Regional Policy of the European Commission
ERDF	European Regional Development Fund
EKC	Environmental Kuznets Curve
EPO	European Patent Office
ESPON	European Spatial Planning Observation Network
FA	Factor Analysis
GDP	Gross Domestic Product
ICT	Information and Communication Technology
INRA	International Research Associates (Europe)
NUTS	Nomenclature of Territorial Units for Statistics
PC	Personal Computer
PCA	Principal Components Analysis
PPS	Purchasing Power Standards
R&D	Research & Development
SF	Structural Funds
TLC	Telecommunication

EXECUTIVE SUMMARY

This Report offers an assessment of economic conditions and policy priorities for the regions falling under the new Competitiveness and Employment Objective 2007-2013.

It is structured as follows:

- 1) the report presents some statistical data on the general economic conditions of the country.
- 2) a statistical analysis on the three ERDF themes: a) Innovation and the Knowledge economy; b) Accessibility; c) Environment and Risk Prevention.
- 3) a discussion of the current experience with Structural Funds and some implementation issues.
- 4) a set of policy priorities as perceived by the team of independent experts. The methodology, sources of data and description of indicators are explained in detail in Vol. I of the Report, that should be duly considered.

Contributors to the Report include: the statistical team, the core team, thematic experts and the country experts. The final version has been prepared under the responsibility of the core team (Milan).

Eligible Regions: Sterea Ellada, Notio Aigaio

▪ *General Economic Conditions*

Sterea Ellada shows population density close to the benchmark of EU eligible regions to the Competitiveness and Employment Objective. In contrast, Notio Aigaio, comprising the islands (Kyklades and Dodekanisos) is relatively high density; Sterea Ellada has a very high share of employment in the primary sectors, and a share of manufacturing only slightly below the benchmark, while Notio Aigaio, has a very low share of manufacturing and still a relatively high primary sector employment. In terms of economic performance the overall ranking is low for Sterea Ellada, and intermediate for Notio Aigaio. In fact, while the latter has lower GDP per capita than the former, and well below the average of eligible regions, it shows a higher growth of GDP per capita, and per employee. Unemployment is double than the benchmark in both regions. Recent trends confirm in general a relatively positive dynamics for the Greek economy.

- *Innovation and knowledge economy:*

The innovation potential in both regions is very limited because of the structure of the economy. This is reflected in very low R&D expenditure over GDP, negligible number of patents applications, very low employment in hi-tech services and also low share of firms of turnover due to new products. Tertiary education indicator is one third that in the EU eligible regions average. Thus the overall ranking for innovation is very low for both regions.

- *Accessibility*

Both multimodal transport accessibility and connectivity to transport terminals by car is low for both regions. Sterea Ellada, is a continental region that is daily crossed by a mass number of passenger and freight traffic. Its eastern part is crossed by the main road and railway axis. The Notio Aigaio islands are served by many seaports and airports, but suffer from the scattered and diverse nature of the archipelagos.

ICT/TLC indicators are low for both regions, with Notio Aigaio perhaps in a relatively better condition for household access to internet and use of a PC, but in any case well below the benchmark. There is evidence however of fast improvement in Greece in this area

- *Environment and risk prevention*

Electricity efficiency and self-sufficiency are above the benchmark for Notio Aigaia, but a concern in some periods of the year, while the situation is much worse for Sterea Ellada. In both regions renewable resources are negligible. The environmental impact of transport seems to be intermediate, basically because of vehicle density and traffic intensity below the benchmark, but there is no non-fuel transport. For the indicators of natural/rural assets the situation is quite good, particularly in Notio Aigaio, with more than 25% of the territory protected. However, during the tourism season some of the islands are at risk. There is no indication of widespread technological risk, but a very high share of burnt areas, particularly in Sterea Ellada. In the latter there is also a serious industry waste management concern in one specific prefecture, Voiota.

- *Implementation of Structural Funds in the current programming period*

Under the current programmes, both regions invested around 35-40% of EU structural funds in infrastructure, and the remaining in a large number of other measures, including exploitation of natural and cultural heritage, rural development, business support and environment (the

latter particularly in Notio Aigaio). The implementation has not been fully satisfactory for the high number of beneficiaries, and insufficient capacity building.

- *Policy priorities for discussion*

The key issue for both regions is the low level of all the non-environment related indicators. As for Innovation, Sterea Ellada is a low performer, and given its economic structure, should give the highest priority to measures in this area, particularly in promoting entrepreneurship and in creating financial instruments and business incubators. Notio Aigaio is in a less critical situation in this area, because its growth model, driven by tourism, is less closely correlated to innovation, even if well targeted measures are needed in this area as well. In contrast, we suggest that Access should be the main priority for Notio Aigaio, and a secondary priority for Sterea Ellada, also because of the wide diversity of local conditions within the region. Finally, both regions need investments in the environment priority, but for different reasons. Notio Aigaio to sustain its development pattern, where environment is a most valuable asset, Sterea Ellada because national traffic and industry concentrations create some specific congestion and pollution problems.

There is moreover a general education priority in both regions, to be addressed with the ESF, and other EU instruments.

1. Scope and methodology

1.1 Aim of the report

The aim of this Country Report is to offer the European Commission an overview of the strengths, weaknesses, opportunities and threats faced by the regions eligible for the new Competitiveness objective 2007-2013. It focuses on the three ERDF themes listed in the draft regulation, and it has been prepared as a background document, with a view to supporting the Commission in its own policy priorities analysis and negotiation with the Member States.

As a part of a comprehensive study on 19 countries including 167 regions, the present Country Report is designed as a summary assessment of some key issues. It is a preliminary assessment that should be completed by a much more detailed structural and policy analysis needed at a later stage for the preparation of the Operative Programmes. Moreover, as explained in detail in Vol. I (Statistical Analysis), and as requested by the Terms of Reference, the present report is based mainly on standardised regional statistics and a common cross-country approach. This has obvious advantages in terms of comparisons and benchmarking, but is not designed to fully capture specific features based on local data, and this fact should be duly considered when using it as a reference.

1.2 Methodology for context analysis

The analysis at regional level presents the following sections: general economic structure, innovation and the knowledge economy, accessibility, environmental and risk prevention. For each section a brief description is given according to a short list of indicators with the following characteristics:

- they are consistent and available at NUT2 level;
- they are relevant for the ERDF thematic approach;
- they are, as far as possible, policy-oriented.

The choice of this set of indicators comes from the need to provide guiding principles for policy priorities, rather than to develop comprehensive regional statistical data. For this reason it should be clear that they give some highlights of the major trends in the regions and do not offer a complete picture of all the needs and weaknesses experienced by the regions.

The rationale of the data processing is the following:

- for each aspect (economic structure plus three themes) a linear composite indicator is created and the region is ranked in comparison with all the other eligible regions;
- for each theme (except Environmental risks) the degree of correlation with the economic performance is investigated, by means of a correlation analysis.

The basic idea is to discuss the main thematic trends in the regions, with respect to the ERDF eligible interventions, in the light of the economic structure and trends and the relative position of the regions as compared to a given benchmark (the EU eligible regions average). This reading of the data helps to discover combinations of, for example, High Innovation and Low Economic Performance, that may suggest the existence of unexploited potential, hence an opportunity to invest more on transfer and adaptation than on R&D or tertiary education per se. This analysis is included in Sections 2 to 5.

This set of information is then discussed from a more qualitative point of view on the basis of inputs coming from an assessment of the current SF programming period and lessons learnt in the field analysis carried out by the national expert.

1.3 Structure of the report

Section 2 briefly summarises the general economic conditions for the eligible regions, using the following average annual data (2000-2002): regional population and its national share, population density, employment share of manufacturing, a 'rural/urban' and a 'presence of manufacturing' classification; and 1995-2002 averages for GDP per capita, rate of unemployment, growth of GDP, labour productivity growth per employee, and economic performance ranking. The latter ranking is crucial in the analysis. It is based on a linear combination of two factors ('levels' and 'growth') arising from a factor analysis (see Vol. I for details). Each data set is presented in comparison with a benchmark given by the average of the EU 168 regions eligible for the objective. Often some additional macroeconomic information is also included.

The following section is on Innovation and Knowledge Economy. It presents regional average annual data (mostly 1995-2002) on R&D expenditure as a share of GDP, EPO applications per million inhabitants, percentage of employment in high-tech services, share of population with tertiary education, share of firms' turnover due to new products (CIS data), and an overall

classification based on a factor analysis. Regions are classified High, Intermediate or Low performing in innovation with a combination of these data.

Section 4 is about Accessibility. It presents data on TLC and ICT (share of firms with Internet access and websites and share of households with a PC and access to the Internet) and data on transport indicators (the ESPON multimodal accessibility potential and connectivity to terminals by car). The analysis is supplemented by recent and forecasted trends in travel demand by mode (DG TREN data and scenario at 2020 (Tremove)). A multi-index analysis is given in the Annex.

Section 5 looks at Environment and Risk prevention. This includes standardised data on energy sustainability (electricity efficiency, self-sufficiency, renewable sources and ranking); the environmental impact of transport (vehicle density, non-fuel transport, anthropic degree, urban/rural typology); natural and technological risk (flood hazard potential, burnt areas and polluting sites). The reader should note that these data cannot cover specific sub-regional environmental risks, but consider regional averages.

Section 6 gives a quick overview of the current 2000-2006 programming period, based on a financial breakdown by re-classified priority and some qualitative comments based on the evaluation results.

The last section is about the policy priorities assessment. The first part of it presents the results of a correlation analysis between Economic Performance and Innovation, Access, and Environment summary indicators. A similar cross-reading is given for Economic Performance, Accessibility and Environment, while the presence of high Natural or Technological Risks is considered as a critical issue per se.

After this combined reading of performance and structural data, the following section is more qualitative, and based on other sources of evidence, including interviews with stakeholders, official documents, evaluation reports, academic research, and the personal assessment by the country expert. This leads to the suggestion of some indicative regional policy priorities, based on the available evidence, to be checked at a later stage when the national frameworks and regional programmes are available.

The report ends with a brief discussion of some implementation issues.

2. General economic conditions

Two regions of Greece have entered the list of the eligible regions for the competitiveness objective 2007-2013 as phasing-in regions.

Nevertheless, one should not neglect the wide disparities existing between Sterea Ellada and Notio Aigaio. Although both regions are scarcely inhabited and not densely populated, the former is located in a continental area, whilst the latter comprises the majority of the Aegean islands (Kyklades and Dodekanisos). Thus, it is easy to understand the pronounced vocation towards primary activities of Sterea Ellada, possessing the highest share of employment in such sectors among the eligible regions, and, on the other hand, the strong specialization of Notio Aigaio in tertiary activities, mainly tourism (table 1).

Tab. 1 Eligible regions by structural indicators

	Population (thousands)	Share of national population	Population density	Share of primary sectors on total employment	Share of manufacturing on total employment	Rural/urban classification	Presence of manufacturing
Sterea Ellada	560	65.19	36	25.59	17.95	Rural	Intermediate
Notio Aigaio	299	34.81	57	8.76	7.82	Rural	Low
National figures	859	100.00	41	19.25	14.14		
EU eligible regions	313,711		129	3.34	20.18		

Source: Eurostat.

Apart from the high rate of unemployment, the two Greek regions present a slightly diverging economic performance (table 2). Sterea Ellada has a much higher GDP per capita and, since we used statistics on regional accounts, this phenomenon cannot be imputed to the fact that a significant share of the people working in the region is resident outside it. As starting from a lower level of GDP per capita, Notio Aigaio exhibits a faster GDP and labour productivity growth and, then, ranks across the EU group of the intermediate performing regions. Note, in particular, how the rise of GDP *per* employed person is extraordinarily higher than the reference average for Europe.

Tab. 2 Eligible regions by economic performance indicators

	GDP per capita	Rate of unemployment	Growth of GDP	Growth of GDP per employed person	Economic performance ranking
Stereia Ellada	21350	12.33	2.38	3.43	Low
Notio Aigaio	17461	12.55	5.48	6.21	Intermediate
National average	19996	12.42	3.27	4.20	
Average of EU eligible regions	24162	6.42	2.34	0.99	

Sources: Eurostat and DG Regio.

When one compares the indicators of growth, it can be observed that labour productivity increased more than GDP in both regions; this implies there has been a fall in the number of employed people and, consequently, the rapid economic expansion occurred without creating employment. More probably, however, the fall in employment could be ascribed to an outflow of retiring people largely superior to the inflow of the new workers' cohorts. At least for Notio Aigaio, this may be an effect of the emigration of young people.

Tab. 3 Eligible regions by economic performance indicators (comparison with the national and European eligible regions)

	GDP per capita		Rate of unemployment		Growth of GDP		Growth of GDP per employed person	
	Greece (100)	EU eligible regions (100)	Greece (100)	EU eligible regions (100)	Greece (100)	EU eligible regions (100)	Greece (100)	EU eligible regions (100)
Stereia Ellada	107	88	99	192	73	101	82	345
Notio Aigaio	87	72	101	196	168	234	148	624

Sources: Eurostat and DG Regio.

The growth of the economic activity accelerated in the period 2002-2005, despite the unfavourable economic trends in the Euro area. The expansionary fiscal policy and the increase

of the private debt have lead to an increase in demand. The increase of the national deficit and of the national debt has resulted in an increased growth rate of the GDP. In 2003, economic activity in Greece continued to perform quite strongly, with the real GDP growth reaching 4.7%, well above the average of the euro zone.

Despite that, the Greek economy still has difficulties in dealing with its two main structural problems, which are the weak international competitiveness and the fiscal imbalances.

The government is implementing a mixture of different economic policies, which aims to simplify and rationalize the tax system, the redemption of bureaucracy and the implementation of motivations for new investments (through the new development law), so that the private investments will be boosted. Structural changes and privatizations are promoted, which are expected to improve the competitiveness of the Greek economy¹.

The main challenges for the Greek economy at this moment are to reduce the fiscal debt and to succeed in its structural changes. The fiscal figures of the 2003-2005 period were characterized by four major facts:

- the national elections
- the costs of the Olympic Games and the overlapping of their budget
- the shortage of incomes in relation with the ones that were forecasted
- the submission of corrected fiscal figures that had as a result the rise of the deficit and the debt since 1997

According to the Annual Competitiveness Report for 2004 which examines the factors that are crucial for its development there are two main conclusions: firstly, Greece occupies a low position according to competitiveness figures and indices. It occupies one of the lowest positions among EU members. Secondly, while there have been certain improvements, the overall tendency is that of deterioration.

These targets, in the case of Greece, include the following aims:

¹ According to the projections included in the 2004 revised update of the Stability and Growth Program for the Greek economy, concerning the 2003-2007 period, the GDP growth will continue remaining in higher levels than the EU average [2004: 4.2% (EU25: 2.4%), 2005: 3.9% (EU25: 2.0%), 2006: 4.0% (EU25: 2.4%), 2007: 4.2% (EU25: 2.4%).

- to adjust the Greek economy to the substitution of cost competitiveness with quality/innovation competitiveness, based on developed entrepreneurship.
- to promote the conversion of Greek comparative advantages into competitive advantages.

The methods through which these aims can be accomplished include:

- to focus efforts on specific sectors, based on Greek competitive advantages,
- to encourage business clusters and networking,
- to place emphasis on the production of products and services of high added value,
- to give priority to the production of products and services that take advantage of new technologies.

Regarding the labour market, its flexibility should be improved through the institution of regulations for working hours, overtime costs, the reduction of the cost for the mobility of the working force etc. The productive classes should cooperate in order to achieve viable adjustments in social security systems. "Best practice" regarding bonuses should be studied and applied in Greece.

The average unemployment rate for 2004 was 10.5%, down from 10.9% in 2002. However, this figure is still higher than the EU average. According to the projections of the revised update of the Stability and Growth Program for the Greek economy, for the next years the unemployment rate in Greece is expected to continue the downward path (2005: 10.5%, 2006: 9.8% and 2007: 8.9%).

However, there are two alternative scenarios regarding the growth projection of the Greek economy, the less optimistic as well as the clearly pessimistic scenario:

- as regards the first one the GDP growth will be stabilized at the level of 3.3% for the period 2005-07 and the unemployment rate will be 10.8% for the year 2005, 10.3% for the year 2006 and 9.8% for the year 2007;
- the second scenario projects an annual GDP growth rate of 2.9% in 2005 and 3.0% in the years ahead, while the unemployment rate will remain above of the 10% level (2005: 11%, 2006: 10.8% and 2007: 10.4%).

3. Innovation and knowledge economy

The Greek regions rank on the bottom of EU data in terms of the innovation potential (table 4). Overall, such a performance is worse for example than Cyprus, apart from the share of turnover due to products new to the firms. There is a considerable lag in the level of advanced education, where Greece falls at the extreme tail of the distribution across the EU eligible regions, together with Italy and, partially, Portugal (Madeira). This aspect may halt, or create obstacles to the chances of development of these regions.

Tab. 4 Eligible regions by indicators of innovation and knowledge economy

	R&D expenditures on GDP	EPO application per million inhabitants	Percent. of employment in high-tech manufact.	Percent. of employment in high-tech services	Share of population with tertiary education	Share of turnover due to products new to the firms	Overall ranking
Stereia Ellada	0.17	1	0.21	1.33	11.34	12.00	Low
Notio Aigaio	0.07	2	0.21	1.57	12.30	12.00	Low
EU eligible Regions	1.70	136	1.49	3.23	24.81	35.21	

Sources: Eurostat and Community Innovation Survey.

The foundation of the new University of Stereia Ellada Region and the expansion of the Aegean University through the establishment of new departments and research institutes alongside with the development of other research bodies will help to improve the bad situation of the innovation and knowledge economy in these areas.

Research institutions and universities should be more effectively connected with enterprises and the research conducted should be oriented towards the needs of the market and of society. Research partnerships between enterprises as well as between enterprises and research institutions should be promoted and funded. The percentage of the GNP devoted to research and technological development should increase, aiming to reach the EU average within a decade. Research efforts by Greek enterprises should be funded and the research system should open up to the rest of the world through the promotion of partnerships, the exchange of scientists etc. Finally, the cost of patent certificates should be funded; otherwise the overall ranking will not change in the future.

4. Accessibility

4.1. Access to transport infrastructure

The condition of secondary infrastructure in the Greek regions is unsatisfactory, being heavily dependent on their territorial configuration: both for connectivity and accessibility, these regions register a low degree of infrastructural endowment. Thus, especially for Sterea Ellada, there is the risk that the low degree of connectivity may slow down the pace of development.

Tab. 5 Greece. Eligible regions by indicators access to transport

	Connectivity to transport terminals by car	Multimodal potential accessibility
Sterea Ellada	Low	Low
Notio Aigaio	Low	Low

Source: ESPON.

As a result, for both regions a particular need of interventions aimed at increasing the degree of transport connectivity and accessibility emerges.

Transport context

Trends in transport demand in Greece² show a consistent decline of the railway mode, -19% for passengers and - 34% for freight in between the years 1990 and 2001, a steady growth of road modes, + 67% for passengers cars and +80 % for trucks and air transport. On average transport demand is growing at a higher rate than the EU 15. Freight modal split is totally dominated by road haulage (considering that short sea shipping is not considered), while for passenger bus and coaches and powered two wheels together cover more than 30% of the total demand. Trends in motorization are quite impressive, in 1990 the number of cars per 1000 inhabitants was less than 45% of the EU 15 value and in 2001 it was already slightly over 65%.

² European Commission, Directorate General for Energy and Transport, European Union Energy and Transport Figures, 2003.

Tab. 6 Trends in travel demand - pkm (1990 = 100)

Years	Cars	Bus and coaches	Railway	Urban rail	Air
1970	18	53	77	76	
1980	57	88	74	82	
1990	100	100	100	100	100
1995	121	114	79	89	135
2000	158	122	95	143	179
2001	167	124	81	160	180
2001 EU 15	120	112	115	115	182

Source: EC -DGTREN.

Tab. 7 Trends in travel demand - tkm (1990 = 100)

Years	Road haulage	Railway	Inland waterways
1970	45	113	
1980	67	134	
1990	100	100	100
1995	136	48	
2000	173	70	
2001	180	66	
2001 EU 15	143	95	117

Source: EC -DGTREN.

Tab. 8 Modal shares by mode of land transport - Passengers - 2001

	Cars	Bus and coaches	Railway	Urban rail	Powered two wheels
Greece	64.9	17.5	1.3	1.1	15.3
EU 15	80.4	8.8	6.5	1.0	3.2

Source: EC -DGTREN.

Tab. 9 Modal shares by mode of land transport - Freight - 2001

	Road	Rail	Inland waterways	Pipelines
Greece	98.0	2.0	na	na
EU 15	75.5	13.1	6.8	4.7

Source: EC -DGTREN.

Tab. 10 Motorization - cars per 1000 inhabitants

	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001
Greece	25.804	89.459	170.76	210.9	213.92	228.69	244.2	266.88	299.37	322.17
EU 15	183.64	292.5	392.92	432.97	438.22	446.13	456.88	468.81	478.81	487.75

Source: EC -DGTREN.

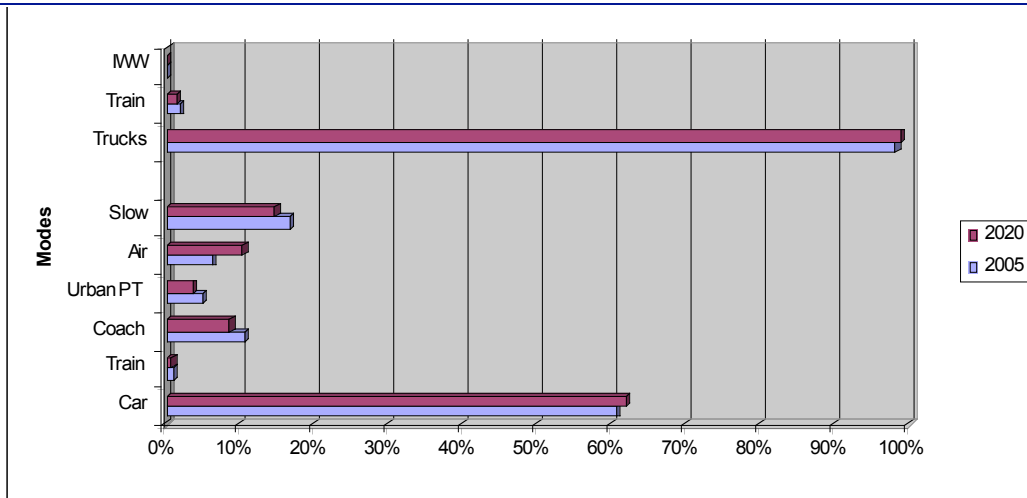
Trends projections³

Trends in transport demand, emissions and vehicle stock are derived from the Tremove study⁴ for the period 2005-2020 and are used as background scenario for the regional analysis. Private cars and trucks will continue to be the main transport mode and will strengthen their role at the detriment of the other modes, with the exception of air transport. From the environmental point of view, the high trends in transport demand together with the relatively poor characteristics of the vehicle fleet make the picture less positive than in other EU countries: emissions of VOC, PM, NO_x will slow down, but less rapidly than in the rest of Western Europe, while CO₂ and N₂O will continue to increase for the whole period.

³ Trends have been derived from the Tremove database, data cannot be compared with the past trends presented in the previous section as the transport modes as well as the type of flows considered are different. Nevertheless they represent a likely trend in the absence of specific transport policies.

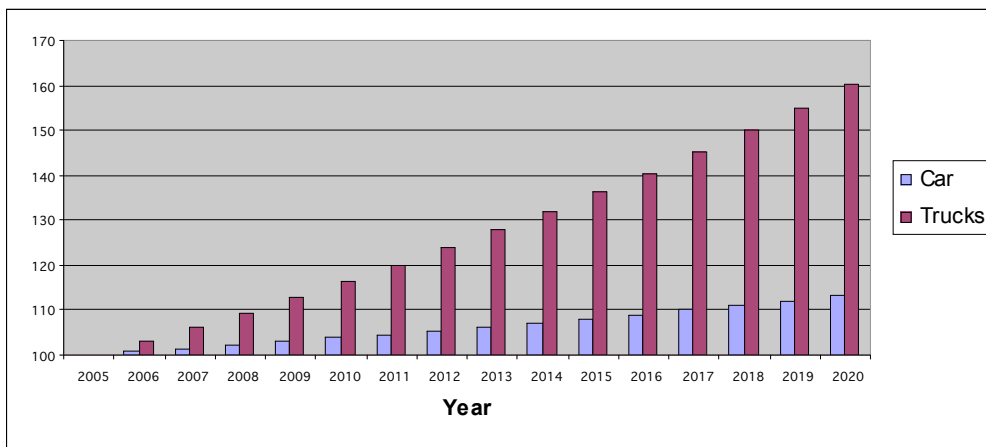
⁴ Tremove 2 Model has been developed by K.U Leuven and Transport & Mobility Leuven together with WSP, TRT, TRL, INFRAS and COWI, on behalf of DG ENV (2005)

Fig. 1 Modal shares. Percentage change 2005-2020.



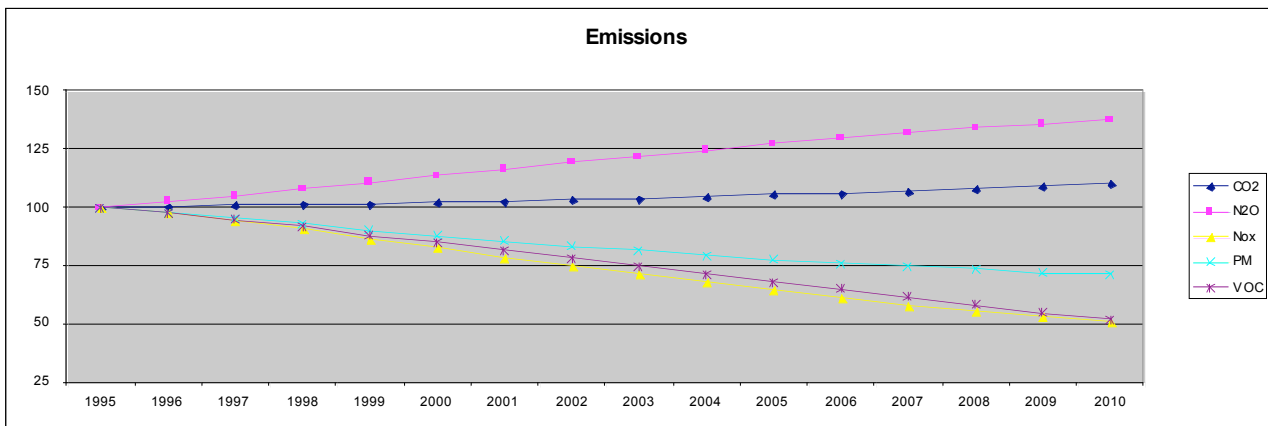
Source: Tremove.

Fig. 2 Road vehicles stock



Source: Tremove.

Fig. 3 Trends in transport emissions



Source: Tremove.

Regional analysis

Approximately 8% of total Greek passenger flows are concentrated in the two eligible regions of Sterea Ellada and Notio Aigaio, whose weight in terms of freight flows is a little bit higher: 11 % of the overall traffic.

Fig. 4 Traffic flows % of total traffic attracted/generated by each region

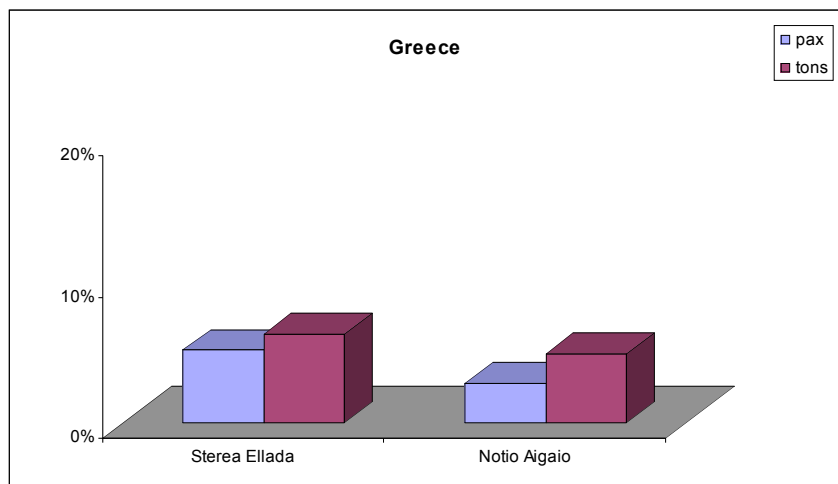
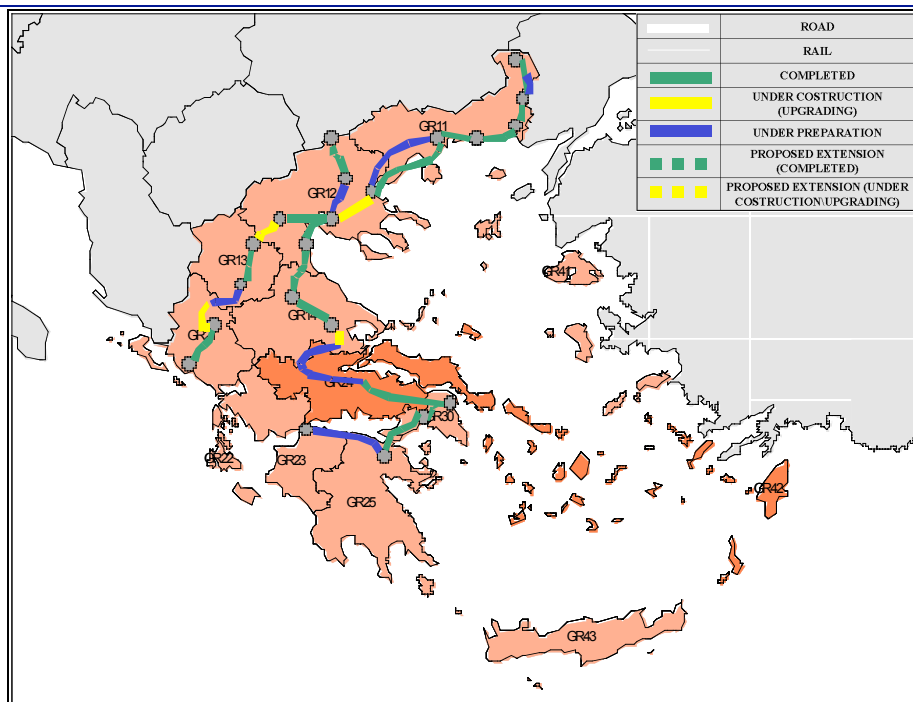


Fig. 5 TEN-T priority projects



Stereia Ellada shows a relatively high level of the Infrastructure Usage Index Indicator compared with the other Greek Regions (see Annex I).

Stereia Ellada, because of its location in the central body of the continental country, constitutes a part of space that connects the two metropolitan centres of Greece (Athens-Thessalonica), and more specifically it connects Athens, southern Greece as well as Aegean Islands (via the port of Piraeus in Attica), with the Northern Greece and the Eastern and Central Europe (via the land transports connections). Thus, this zone constitutes an area which is daily crossed of a mass number of passengers and freights.

On the other hand, the eastern part of the region is crossed by the main road and railway axis of Greece (PATHE: Patra-Athens-Thessaloniki-Eyzonoi or Eidomeni regarding the railway network) which constitutes part of Pan-European transport networks as well.

Regarding the Accessibility Index, the large number of islands (with different sizes in terms of population and GDP) and accordingly the many seaports and airports located in the Notio Aigaio Region provide a high level for the examined indicator, which is not only higher than the corresponding indicator of Stereia Ellada but also exceeds the national average. However, in this case it should not be overlooked the phenomenon of insularity and especially its main

characteristic – obstacle which is the absence of permanent and constant connection with the continental space.

Moreover, the Notio Aigaio Region is characterized by the phenomenon of “double insularity” due to the different size of islands, the location and the distance as well as the absence of direct connection of small islands with the capitals of prefecture and region, and the country capital as well.

The breaking to pieces of the island space and the absence of a permanent and constant connection (among the islands as well as between them and the continental country), explain also the low level of Connectivity Index for the Notio Aigaio Region.

In the opposite case, the availability of the main road and railway network as well as the facility of access to it, lead to a comparatively high level of the indicator for Sterea Ellada.

Three TEN-T priority projects run through the Greek territory and sea:

- the motorway Igoumentsa/Patra – Athina- -Sofia – Budapest, a project which involves the construction of two motorways one running West-East following the ancient route of the via Egatia, and a second one running South North, up to the Bulgarian border.
- the railway line of the Ionian/Adriatic intermodal corridor.
- the South-Eastern Europe motorway of the sea, linking the Adriatic Sea to the Ionian Sea and to the eastern Mediterranean in order to include Cyprus.

4.2. Access to telecommunications and information technologies

As strongly dependent on the level of income (GDP per head), the penetration of ICT is still limited in Greece, especially across households. To be considered is that the roll-out of the broadband had not yet commenced in 2002 and, however, its development may be problematic in the next years in the light of the territorial configuration of the regions, especially Notio Aigaio. The fact that the home uptake of ICT is higher in this region is likely to reflect its attitude to tourism as well as the more peripheral location that pushes people to exploit more substantially these technologies to communicate with more central areas.

From the comparison of the indicators of access to telecommunications and information technologies it can be observed that the two eligible regions for the competitiveness objective 2007-2013 are in a low overall ranking.

Also, one should not neglect the wide disparities existing between Sterea Ellada and Notio Aigaio for some indicators such as the shares of households with PCs as well as internet access.

Tab. 11 Eligible regions by access to TLC/ICT

	Share of firms with Internet access	Share of firms with a Web site	Share of households with PCs	Share of households with Internet access	Share of households with broadband Internet access	Overall ranking
Sterea Ellada	65.4	35.7	16.0	8.8	0.0	Low
Notio Aigaio	65.5	35.9	36.6	14.3	0.0	Low
EU eligible Regions	86.01	56.33	49.29	35.19	5.05	

Sources: ESPON and INRA.

Tab. 12 Ranking by variable - max

	Share of firms with Internet access	Share of firms with a Web site	Share of households with PCs	Share of households with Internet access	Share of households with broadband Internet access
Ranking	17	16	17	18	19

Sources: ESPON and INRA.

Tab. 13 Ranking of regional spread, by variable out of the EU eligible Regions

	Internet access (firms)	Web site	PCs	Internet access (households)	broadband Internet access
Ranking	13	13	2	12	13

Sources: ESPON and INRA.

In general the situation in Greece regarding the telecommunications and information technologies access shows an important improvement in the last years. The Operational Program "Information Society" of the Third CSF facilitates and mobilizes essential interventions to this direction.

According to the last available data of this program, the telecommunications market in Greece continues the increasing course in higher levels than those of the European Union (4.39% in 2003 from 3.07% in 2002 compared with the 3.78% and 1.97% of the European average respectively).

Although the broadband communications access in Greece still remains lower than the European Union, the dynamism of telecommunications sector reinforces the investments in broadband infrastructures.

The internet access of the total population was increased in 2003 at the levels of 20% against 17.3% in 2002. At the ages of 15-24 the percentage of internet users approaches the 50%. The year 2003 the 30.5% of Greek households owned PC against 27.2% in 2002.

Particularly satisfactory are the relative percentages in small enterprises with 11-150 employees. The 92% of them have at least one computer (94% in the EU), the 82% have access in Internet services (83% in the EU) and also the 48% of them have a Web site (52% in the EU). This dynamics is expected to be strengthened substantially the next years.

In the very small enterprises (up to 10 workers) the indicators present a delay compared with the European average. The contribution of the program "Networking", that has already been developed by roughly 15,000 very small enterprises, 9,000 of them having participated also in accompanying training programs, is expected to be important.

Around 60% of these enterprises consider that they cover their needs through this special program.

5. Environment and risk prevention

The picture emerging from the examination of environment data is not univocal (tables 14-17). Indeed, if on the one hand Greece presents a very large endowment of rural and natural assets, on the other, specific problematic issues clearly emerge. For instance, the energy sustainability is limited either by the scarce degree of self-efficiency or usage of renewable sources. Instead, the Greek regions can be classified as intermediate with regard to the transportation environment impact. Finally, these regions are characterized by serious natural risks (especially fires), similarly to the majority of the Mediterranean regions.

Electricity efficiency and renewable energy

As regards the *electricity efficiency* indicator (GDP PPP/ total electricity consumption), Sterea Ellada is quite under the EU average, whereas Notio Aigiao is over, with its 4.05 million euros GDP per gigawatt hour consumed. This performance is due to the scarce level of industrialization of the Country, with a prevalent rural territory.

Tab. 14 Eligible regions by indicators of energy sustainability

GREECE	EN1 (electricity efficiency)	EN2 (electricity self-sufficiency)	EN3 (renewable sources)	Overall ranking
Sterea Ellada	1.697	0.057	0.000	Low
Notio Aigiao	4.057	0.381	0.000	Intermediate
EU eligible Regions	3.646	0.254	0.202	

Source: EUROSTAT - NEW CRONOS (Regio).

Notio Aigiao is more *electricity self-sufficient* than the EU average (0.381 towards 0.269), while Sterea Ellada presents a quite low electricity production capacity.

Regarding the *renewable sources*, both the Greek regions have a very low percentage of production capacity, near the minimum European level.

As for the composite indicator of *energy sustainability*, Notio Aigiao ranked as intermediate, whereas Sterea Ellada is considered to be low energy sustainable.

Transport and environment

Vehicles density in both the regions is under the EU average, and the *traffic intensity* is very low, 2 points under the EU average. *Non fuel transportation* reaches the minimum European levels, as the railway system is not quite developed.

Tab. 15 Eligible regions by indicators of transpostation impact

GREECE	TR1 (vehicles density)	TR2 (non fuel transportation)	TR3 (traffic intensity)	Overall ranking
Stereia Ellada	0.010	0.000	-0.997	Intermediate
Notio Aigiao	0.015	0.000	-0.833	Intermediate
EU eligible Regions	0.218	0.031	0.400	

Source: EUROSTAT - NEW CRONOS (Regio).

1) Every transport indicator - TR1, TR2 and TR3 - should be interpreted according its own dimension (and colour in column chart). Indicators cannot be compared with each other because of the difference in scales used. See Annex.

The value of the traffic intensity indicator (TR3) could be some time negative because of the method of normalization used to calculate it. Such a normalization method allows us to summarize the two heterogeneous variables which make up the indicator ("total number of driven intra-regional trips/Total Area" and "Total number of kilometres made by journeys produced-generated by the region/Total Area). Values produced by normalization are relative and not absolute values.

Combining the 3 indicators, the transportation impact on environment produced by the Greek regions is considered intermediate.

Natural resources assets and management

Greece belongs to the Mediterranean bio-geographical regions.

Tab. 16 Eligible regions by indicators of natural/rural assets

GREECE	NA1 (degree of protection)	NA2 (wilderness degree)	NA3 (anthropic degree)	NA4 (Urban- Rural typology)	Overall ranking
Stereia Ellada	0.106	0.539	0.007	6.000	High
Notio Aigiao	0.256	0.000	0.000	6.000	High
EU eligible Regions	0.088	0.310	0.103	2.819	

Source: IRENA Database and ESPON-CORINE Landcover Database.

The share of *protected areas*, according to the Habitat and Birds Directives, overcomes the EU average in both the regions, especially in Notio Aigiao, with 25% of the territory covered by the two Directives.

Regarding the *wilderness degree*, the presence of natural and semi-natural surfaces is particularly high in Sterea Ellada (almost 54% towards the EU average 30%). However, the wilderness degree probably does not clearly depict the current trends. The lack of the operational organization of the natural protected areas –NATURA2000- may permit a rapid deterioration in natural areas and wildlife.

Both the regions have a very little human intervention, near the minimum registered at the EU level, measured by the *anthropic degree*.

The regional territory belongs to the rural typology, as the share of rural settings is the highest among all the EU eligible regions; the presence of towns in fact is very little in Greece.

In conclusion, the Greek regions have a high natural/ rural assets endowment value.

Risk Prevention

Tab. 17 Eligible regions by indicators of natural and technological risk

GREECE	RK1 (flood hazard potential)	RK2 (burnt areas)	RK3 (polluting sites density)	Overall ranking
Sterea Ellada	0.000	17.942	0.032	High
Notio Aigiao	0.000	7.945	0.000	High
EU eligible Regions	0.763	1.622	0.447	

Source: ESPON Database and EPER-EEA.

The risk of flood is not existent in both the regions.

Because of the climatic and hydrographic situation, the risk of fire is quite high, especially in Sterea Ellada, compared with the EU average risk (2.572).

The overall natural risk is high in both the Greek regions, while the technological risk, represented by the polluting sites density, is very low, except in specific locations.

In the Region of Sterea Ellada the concentration of industrial activity in the prefecture of Voiotia (the largest industrial concentration in Greece) creates important problems in terms of industrial waste management. The last years the situation has improved (also by the creation of an Environmental Waste Management Network in 2003 within the context of the Regional Innovation Programme of Sterea Ellada), but the upgrading of waste management infrastructure is still a priority. On the other hand the mountainous parts of the Region consist of natural surfaces and protected areas of great importance (e.g. the prefecture of Evritania). The upgrading of urban space for the enhancement of the quality of life is also a main priority.

The energy sustainability is a key issue for the Region of Notio Aigaiio, alongside with the risk prevention of natural hazards during some periods of the year. The insularity of the region does not allow affordable and easy solutions. The protection of natural surfaces and the upgrading of the land-use system in over-populated islands during the tourist season (e.g. Santorini) are key priorities for the Region.

6. Implementation of Structural Funds

6.1. The 2000-2006 Structural Funds Programming period

From the 2007-2013 programming period two Greek regions (Continental Greece and South Aegean) will receive EU Structural Funds under the new Regional Competitiveness and Employment Objective. This involves significant decrease in financial contributions toward these regions since in the current programming period (2000-2006) all Greek regions fall under the Objective 1 programmes.

Tab. 18 EU Contribution by region and by priority area, Objective 2 (2000-2006) %

REGION	Business Support	Environment	Human Resources	Infrastructure	Other	Technical Assistance	Total
Continental Greece	8.39		5.22	41.63	43.72	1.04	100.00
South Aegean	16.09	13.33		34.66	34.50	1.43	100.00
Total	11.56	5.49	3.07	38.76	39.92	1.20	100.00

Source: our processing of DG Regio data.

During this period the two regions receive 903.84 million €⁵. This amount contributes above all towards the financing of the "Infrastructure" and "Other" priority areas as in our classification: in both regions each of them accounts for about 40% of total financial resources. Typologies of intervention are influenced by the geographical features of the two regions. In Continental Greece interventions are aimed at the reduction of disparities between mountainous areas and the most developed ones, which benefit from the proximity to the Attic region, with a further focus on the development of urban centers. Notio Aigaio region suffers from serious structural problems, caused mainly by its peripheral position, its insular and mountainous nature, and the serious disparities in the development of the different islands.

In the current programming period great emphasis is put on the development of rural and geographically disadvantaged areas. This objective is pursued by specific measures on basic

⁵ 1999 prices.

infrastructure, to improve the linkage to the continent and major cities (Athens). A relevant effort is undertaken for the exploitation of the natural and cultural heritage, with the view to strengthen the tourism sector. Remaining resources are mainly allocated in business support measures, primarily aimed at SMEs and investments in innovation and ICT. At the regional level, Continental Greece and South Aegean regions also benefit from Objective 1 national programme measures regarding competitiveness, transport infrastructure, information society, culture, education, employment, rural development, fisheries, health and environment.

6.2 Implementation of regional polices: lessons learnt

According to the results from interviews with the stakeholders and the documents available, it could be said that there are some main conclusions-proposals that should be taken into consideration. More specifically:

- In the current programming period there are too many final beneficiaries, a fact that creates major delays. Therefore it is necessary to reduce this number so that the programmes can move on faster.
- The staff of the Managing Body of the regions has to be trained in order to be able to manage the special needs of the new competitiveness objective (former objective 2).
- Increase of the role of authorities at regional level.
- Maximum use of the banking system. The banks are able to administrate more effectively the complex and demanding issues of the Structural Funds, concerning the private sector.
- There has to be a project management system for medium and small projects. This can be achieved by the appointment of a management consultant for grouped projects that have common features.
- The public control procedures must be simplified.
- The publicity and transparency of the projects is an issue of major importance and there has to be more attention given
- Better use of the regional universities concerning the R&D development is a key issue. Actions and programmes with an innovative character must increase and receive better support.

- Special emphasis must be given to the improvement of the Information Society programmes. It was generally agreed that its structure and operation has not been effective enough.
- The private sector has to maintain a more important role in the implementation of the new competitiveness objective
- In the Region of Sterea Ellada the main characteristic is the dualism between the industrial area in the southern part (Voiotia) which is directly connected to the neighboring city of Athens, and the mountainous areas in the north-western part; in the region of Notio Aigaio the insularity forms the main problem that must be taken into account by the Commission.

The further thematic specialization of the Objectives of the Structural Funds into ten priorities, is a basis for discussion in order to improve the efficiency of structural policies in the coming period.

The target is to improve the effectiveness of the EU's regional policy through partnership and complementary priority axes in order to confront the problems (insularity, mountainous regions, dualism, etc.). The Strategic Directions of the EU should constitute a general policy framework within which the National Strategic Frameworks will be developed, bringing forth and taking into consideration the social and economic characteristics that differentiate the regions. The EU interventions should aim to establish Greece as a pole for the development of EU relations with the Balkans and the Eastern Mediterranean. Finally, the regions of Sterea Ellada and Notio Aigaio are facing a new reality with many challenges

7. Policy priorities assessment

7.1. Findings from the statistical analysis

The comparison between the economic performance and the thematic indicators, separated between the environmental and non-environmental, allows one to identify the policy priorities for an effective allocation of the ERDF funds.

The first aspect to point out is the low value of all non-environmental indicators; however, given the scarce level of development, the easiness to reach transport terminals arises as an equally important problem to tackle. In addition, especially for the touristic specialization of Notio Aigaio, a push to the diffusion of ICT may help to increase the degree of attractiveness of this area.

With regard to innovation potential, it may be important to sustain the accumulation of human capital (tertiary education), which is still very low in Sterea Ellada and may be a prerequisite for the future development of the area.

Tab. 19 Eligible regions: economic performance versus innovation & knowledge economy, access to ICT and access to transport

	Economic performance	Innovation and knowledge economy		Access to TLC and ICT		Access to transport	
	Ranking	Ranking	Joint analysis	Ranking	Joint analysis	Criticality	Joint analysis
Sterea Ellada	Low	Low	Low performer	Low	Low performer	Low connectivity & accessibility	Low performer
Notio Aigaio	Intermediate	Low	Uncorrelated	Low	Uncorrelated	Low connectivity & accessibility	Uncorrelated

Source: our processing.

Tab. 20 Eligible regions: economic performance versus environment and risk prevention

	Economic performance	Energy sustainability	Transport impact	Natural/rural assets	Natural risk	Technological risk
Stereia Ellada	Low	Low	Intermediate	High	High	Low
Notio Aigaio	Intermediate	Intermediate	Intermediate	High	High	Low

Source: our processing.

Concerning environment indicators, the high natural risk of Notio Aigaio is worth of special consideration, since safety is a factor crucial to its model of economic development (based on tourism). Instead, in the light of its main orientation, one may consider interventions in the innovation potential as a secondary priority.

7.2. Findings from the field analysis

7.2.1 The national context

There follows a list of priorities that appear to be among the main issues at stake in the country. These priorities are not necessarily consistent with the Lisbon strategy, but reflect the actual needs as perceived at this preliminary strategy some stakeholders we have interviewed.

Education

The acquisition of basic skills through education (for the youth) is a fundamental investment for the enhancement of the economy of knowledge and for the development targets. Cohesion policies can contribute to the already existing national education policies -which should continue to play a leading part in the improvement of schooling models and the performance of students- and to broader European policies in order to enhance education and to promote integration, especially in less developed areas or regions.

The basic priorities in the education sector constitute the main points of the National Debate, which is taking place within the framework of the National Board for Education. These are:

- Initiatives and actions aiming to improve the educational system's flexibility and coherence by improving its quality and effectiveness (promotion of decentralization, reduction of bureaucracy, opening to society, reinforcement of the multicultural dimension of education).
- Gradual expansion of compulsory education from 9 to 12 years. Upgrading of Technical and Vocational Schools to Vocational Highschools.
- Enhancement of the financial independence of Universities and development of new management possibilities.
- Evaluation procedures on all levels, for everyone involved in the educational process and for every level of education. Establishment of an evaluation body for university education.
- Support for life-long learning and development of open and distance learning. Creation of links between education and training systems and linkage of those with the job market.
- Support of research activities, mainly basic ones, and orientation and linkage between research and the more dynamic sectors of the economy.
- Actions to upgrade the role that the Greek educational system can play within the broader framework of South Eastern Europe and the Balkans. Establishment of an international university at Thessaloniki.

Tourism and culture

Tourism as a basic priority and a driving force of the development process that will contribute directly and indirectly to production, income and employment. It holds special interest for most of the Greek Regions.

The same applies to the promotion of Greek culture in the 21st century within the triptych: infrastructure – institutions – investments, so that this sector can have a direct and indirect effect on employment and income. Culture is Greece's great comparative advantage and it should be utilized for the development of Greek society. The target is to make Greece a powerful regional centre of culture and education for the entire area of Southeastern Europe and the Southeastern Mediterranean, as well as a centre of international importance in the field of cultural heritage. Culture as a tool for Regional Development should be supported by new institutions and by infrastructure. Special emphasis should be placed on the remote and less developed areas of the country. The same goes for the insular and mountainous parts of Greece that offer important opportunities for the development of economic activities and can attract visitors.

The entrepreneurial environment

The upgrading of the entrepreneurial environment which includes measures and initiatives connected with the creation of a framework that will promote the simplification and transparency of the establishment and operation of enterprises, as well as with the substantial upgrading of institutions and infrastructure that support entrepreneurial activity (comprising the different kinds e.g. consulting, funding, structures or tools for the support of enterprises and entrepreneurial activity).

The enhancement of competition, the promotion of the deregulation of the product and service market, the policy for the support of consumers through speeding the opening of markets, the promotion of healthy competition, the cultivation of consumer awareness and of its relationship with the share of quality products and services in the national product.

The enhancement of entrepreneurial activity and of manufacturing, services and commercial enterprises (especially small and medium enterprises). Due to the important role of entrepreneurial activity in the development of competitiveness and the enhancement of employment it is a priority to broaden the basis of entrepreneurial activity and generally to develop an entrepreneurial culture. At the same time, support should be provided for the small and medium enterprises in order to enhance their place in competition by technological and organizational modernization and by targeting the "competitive advantage".

The (further) enhancement of the deregulation of the energy market and the security of the country's energy supply, given the environmental commitments. The sensible management of natural resources.

The completion and application of the Zone Planning is considered a national priority.

Important national priorities in the sectors of Health and Welfare (e.g. to improve the services provided, to improve citizens' access to health and welfare services and restructuring of the healthcare system).

There is partial coverage as far as the restructuring of public administration is concerned. This is an area where national priorities are obviously broader than EU targets.

Issues concerning geographically disadvantaged areas (e.g. islands, mountainous areas) are only partially covered within the three new Objectives. These areas constitute an important part of the country (in terms of territory and population) and differentiate Greece from other members of the EU. Each of the country's islands is in need of different types of infrastructure: harbors, airports, water and waste management systems, environmental protection of the

coastline and the sea and many other. Despite the progress that has already been made, many islands are still lacking in infrastructure, while geographic fragmentation has a negative impact on operational costs. The main restraining factors in the development of the islands result from the nature of the insular territory.

For these reasons there should be a special mention on how to deal with “insularity” and with issues such as the development of disadvantaged insular areas, cross-border cooperation, developments in the field of tourism etc.

The regional context

Region of Sterea Ellada

Context

Eurostat indices place the Region of Sterea Ellada in the first place among Greek Regions, as far as development is concerned, with GNP p.c. that equals 104.3% of the European average (EU25=100), while the national performance is 73.8% of the EU25 average. This is however a deceptive figure that probably does not correspond to the actual status of the Region. The difference stems from the method of regional distribution of the produced GNP, a large part of which is produced by enterprises based in Attica and by a labour force that resides outside the Region. This product is therefore consumed and taxed outside the Region. Furthermore, the majority of the regional GNP is produced along the National Athens - Thessaloniki Autoroute. The Region’s strategic position along the development axis of the National Autoroute and its proximity to the capital are the main causes of this phenomenon.

In conclusion, the development of the Region mainly derives from external factors, resulting in a “prosperity of figures” and accumulating economic, environmental and social pressure to the Region. One of its consequences is the possible exclusion of the Region from the Objective “Convergence” and its inclusion in the Objective “Competitiveness and Development”, along with the most developed regions of the EU.

The secondary sector of the economy plays an important part in the development of the Region since it represents a large percentage of employment while at the same time supporting the rest of the economic activity in the Region.

The tertiary sector has been particularly dynamic in the last few years, increasing its contribution in employment and in shaping the regional product. However, the participation of

the public sector in the composition of the fixed capital is low compared to the rest of the country, while the activities (transportation and wholesale) are targeted more towards Athens than towards the Region.

Tourism has shown a slight decline. It is localized in certain zones of the Region and faces the structural problems of this sector in Greece (seasonality, low quality etc). However, the Region is rich in cultural and natural resources that can provide a high quality tourist product on a European level. The "tertiarisation" of economy is an important development issue, especially for mountainous disadvantaged areas. Drastic measures should be taken in order to develop alternative forms of tourism, taking advantage of the resources of these areas.

Policy priorities

Evaluation of the results of interventions in the Region during the current and previous programming periods offers additional insights.

Within the framework of the ROP 1994-1999 (2nd programming period), the enhancement of competitiveness was the second development priority of the Region. The aims of the interventions were the empowerment of SMEs, the modernization of manufacturing and tourism SMEs and the weakness/threat regarding the low presence of innovation and Research and Technology in the Region.

The development of transportation, communication and energy networks and infrastructure was the first priority during the previous programming periods. The projects involving the Region of Sterea Ellada include parts of the National Athens-Thessaloniki Autoroute and the upgrading of the railway network.

During the 2nd and 3rd CSF, the measures and projects regarding the protection of the environment were the fourth priority. The projects include the construction of water pipes, sewage pipes and biological waste disposal systems. Projects involving the management of dangerous industrial waste have not yet been implemented, even though they are very important for the Region, given the size of the secondary sector.

The interventions in the human resources sector included the infrastructure for all educational grades, vocational training programmes and interventions regarding social exclusion.

In the sector of public administration, the interventions included the electronic networking of public services, the enhancement of communication and quality of service to citizens, and the training of civil servants using new digital tools.

Other development axes included social infrastructure (hospitals) and measures for reducing the duality in the Region (investments in agriculture).

SWOT analysis

Strengths include the highly developed secondary sector, the rich mineral resources, the natural and cultural resources, the agricultural production, the National Autoroute that crosses the Region, the proximity to the Athens market and the creation and further development of the University of the Region.

Weaknesses include the absence of innovation and research and technology infrastructure, the lack in specialized human resources, the low quality of the tourist product, the isolation of mountainous and insular areas, the lack of infrastructure for specialization in high technology sectors and the lack of human resources and infrastructure for the development and participation in initiatives.

Opportunities include the exploitation of investments in innovation, the use of modern, integrated transportation systems, the increased demand for alternative forms of tourism, the connection of the agricultural, secondary and tertiary sectors in agricultural products of added value (biological products, local products etc), the attraction of residents from the capital due to better quality of life, the networking of the secondary sector with industrially advanced European Regions and the development of cultural tourism.

Threats include the development due to factors outside the Region, increased intra-regional inequalities, reduced competitiveness of the secondary sector due to competition from new EU members and SE Asia countries, reduced funding due to the potential inclusion of the Region in Objective 2, long-term localised unemployment, gradual reduction of the active population, concentration of powers in the central government and lack of knowledge integration mechanisms that could speed up the development of the Region.

Taking into consideration the Lisbon and Gothenburg targets, EU Regions have to define strategies in the new programming period placing emphasis on issues of competitiveness, innovation, employment and environmental protection. These targets are consistent with the development targets of the Region of Sterea Ellada, however it is necessary to particularize them in order to:

- Face the threats and promote the opportunities that were mentioned above.
- Correct weaknesses and develop strengths.

- To create a “vehicle” for European policies as those have already been planned, for the benefit of the entire Region.

Internal priorities by proposed development Axis are the following ones:

Competitiveness – Innovation

It is necessary to develop a strategic partnership between private and public development actors in the Region of Sterea Ellada, targeted on basic issues of development choices such as the specialization of land-planning in industrial zones, the encouragement of innovation in enterprises, the enhancement of investment-attracting structures, the enhancement of knowledge transportation and absorption and the support of the competitiveness of the primary sector and the promotion of its connection to the tertiary sector.

Accessibility for balanced development.

Apart from the completion of transportation infrastructures of national importance, it is necessary to develop the transportation network of the Region in order to balance the inequalities in economic activities and to diffuse the development opportunities to the mainland. It is also necessary to promote the connection of the Region with the Regions of Western Greece, Epirus and Thessaly, as well as to increase the accessibility of northern and southern Euboea.

Knowledge Society, innate entrepreneurship and employment

In synergy with priority A, the Region should seek to create the human resources that will constitute a competitive advantage for the Region. It is necessary to link vocational training programmes with the needs of the productive sectors, to support and adapt the educational system and research activities to the digital age, to cultivate entrepreneurial culture and to continue policies aimed at special social groups and categories of the labour force.

Environment and sustainability.

The strategy for environmental protection and sustainable development is ensured through two components: firstly, the inclusion of environmental awareness in all interventions in favour of competitiveness and accessibility and secondly, the promotion of specific projects for the prevention and reduction of pollution, the protection of environmental resources, the

upgrading of waste management infrastructure and the upgrading of urban space for the enhancement of the quality of life.

"Open" Region.

Taking advantage of the developed secondary sector, the Region of Sterea Ellada can obtain great benefits through the development of cooperation programmes with other European Regions that share the same interests in the fields of:

- research and technology, especially in the sectors of manufacturing and transportations
- environmental protection and environmental risk prevention
- vocational retaining and employment in dynamic sectors of the new economy, F. Public Administration

Interventions in this field focus mainly on horizontal policies aiming at the upgrading of human resources in public administration, the upgrading of the role played by the public administration in the planning and management of development projects, the enhancement and simplification of procedures between the government and citizens and the overcoming of obstacles (bureaucracy, tardy procedures) that have a negative effect on competitiveness.

We now point out some intra-regional inequalities and effects within the framework of Regional development priorities

As has already been mentioned above, intra-regional inequalities are a major problem for the Region of Sterea Ellada, on one hand because of the geographical variety of the region (mountainous – insular areas against lowland areas) and on the other hand because of the "gravity" exercised by the Athens pole on the prefecture of Voiotia and the area of Halkida.

Facing the problem of duality has been a priority of the ROPs during the previous programming periods. However, due to the limited funds of the ROPs and the national priorities in several sectors, most of the funds were directed to the "developed" part of the Region. The issue is to examine the substantial differences between the development level of Voiotia and the less developed areas of the Region.

The promotion of policies that support the competitiveness of the secondary sector will benefit the already existing industrial areas. Actions oriented towards creating a homogeneous Region should be planned in order to minimize the effects of intra-regional inequalities. In addition, actions that promote the competitiveness of the product of disadvantaged areas should be undertaken, involving tourism, the promotion of quality products, the production of energy and

the sustainable utilization of the natural and cultural resources. The same effect is expected from actions related to vocational training and education.

In order to reduce the inequalities within the Region, plans for integrated intervention in development clusters of the disadvantaged areas should be detailed during the planning period (until 2007). At the same time, priorities related to environmental protection and the formulation of interventions aiming to promote sustainable development and the sensible management of natural resources will result not only to the protection of the environment but also to the development of these disadvantaged areas by creating jobs, generating income and upgrading the quality of life. In relation to accessibility infrastructure, the region should take advantage of the axes of national and European importance (Athens-Thessaloniki Autoroute, railway network) in order to diffuse the development opportunities that they offer to the "mainland" and the insular areas of Sterea Ellada.

The implementation of the above mentioned strategy needs some institutional and organizational adaptations.

The institutional and organizational adaptations aim to minimize the weaknesses that occur today in the management, monitoring and implementation of the Operational Programmes, as well as to anticipate new problems that may arise with the changes in regulations and procedures.

During the period 2007-2013 important changes are expected in the way that the Support Frameworks operate and are managed. These changes include the national monitoring system that is expected to replace the EU monitoring bodies, the simplification and decentralization of procedures and the increased competition between programmes for funding.

These prospects render it necessary to review the planning – implementation – management – monitoring procedures. The following proposals are pointed out:

- Faster specialization of planning
- Less bureaucracy
- Coordination of Sectoral and Regional Operational Programmes

Regardless of the Objective under which the Region of Sterea Ellada will be included and given its low performance in inter-regional cooperation it is necessary to create networks with other Regions, mainly Greek ones. Through these networks it is expected that potential "complementary" sources of competitiveness will be created, in five levels:

- "complementary" production procedures

- “complementary” economic procedures
- “complementary” opportunities for the adoption and adaptation of innovation
- “complementary” management and administration.

Finally, an important issue that should be resolved is the multitude of actors that support development activities. Several bodies have been established within the framework of the Regional Operational Programmes, the Sectoral Operational Programmes and the EU Initiatives in order to support entrepreneurial, agricultural and other development activities. It is necessary to evaluate these mechanisms’ efficiency on a regional level and to indicate the actors that will efficiently promote the planning, implementation and management of the Region’s development interventions.

Region Notio Aigaio

Context

As far as competitiveness is concerned, the Region focused on enhancing the status of the Region in national, European and international context.

The status of the Region of Notio Aigaio is determined by a series of factors:

- Geographical position. The Region is the southeastern border of the EU and will play a leading role in the area within the next few years. Its great distance from European centers of development, its lack of borders with other European countries and the geographical fragmentation render the Notio Aigaio Region as an extremely isolated European Region.
- Geopolitical developments. The definition of a starting date for negotiations between the EU and Turkey will have a decisive effect on sectors like tourism, commerce, environment, communication, energy etc.
- International range. The international range of the Region is mainly defined by tourism and culture and by the natural environment resources that render it an internationally renowned traveling destination.
- Dependence from the tourism sector. The strong dependence from the tourism makes the local productive system enough vulnerable to the demand changes as well as the phases of the economic circle. The results are observed are the structural regression with important negative consequences for the viability of the local productive system. In order to be

anticipated these negative consequences the differentiation of the tourist product as well as the intersectoral growth must be promoted, so that is ensured a long-lasting balance and finally the sustainable development in the islander economy.

- Vision and aims. To maintain tourism by attracting high-income visitors. To establish the Region as a centre for the production of high technology products and services. For the coming years, the Region of Notio Aigaio will focus on increasing its competitiveness in the fields of tourism, culture, research and technology, on dealing with accessibility problems and on the enhancement of the quality of life.

Policy priorities

Evaluation of the results of interventions in the Region during the current and previous programming periods shows the following.

As far as competitiveness is concerned, the Region focused on enhancing the following entrepreneurial structures: tourism infrastructure, promotion of cultural resources, enhancement of agricultural infrastructure, improvement of entrepreneurial environment and support of investments in SMEs in tourism, manufacturing, agriculture and stockbreeding.

Regarding the priority "improvement of accessibility and services of general economic interest" the following sectors were supported: transport infrastructure (by air, sea or land), communications and energy infrastructure (production, networks) and social infrastructure (health and welfare).

The third priority, referring to human resources, included actions involving education, vocational training and employment.

The fourth priority, "Sustainability" included the support of sectors such as environmental protection, protection of the built environment (promotion of architectural heritage) and environmental management.

The fifth priority "Public Administration" aimed at defining an institutional framework for the Notio Aigaio in order to attract managers for the public services and to fill vacant jobs in crucial sectors, to decentralize responsibilities and to encourage the use of new technologies.

The sixth priority "Support of areas with low degree of economic development" included actions for the promotion of agricultural development and employment, marine transportations and communications, basic infrastructure and social services.

The seventh priority, "Support of cross-border, international and inter-regional cooperation" focused on know-how exchange in the sectors of tourism, cultural activities and commerce.

Finally, the eighth priority "Establishment of a network of high technology products" was not implemented in the Region of the Southern Aegean, except in few and far between occasions.

SWOT analysis

Strengths include: the constant increase of the population, low unemployment, rich natural and cultural resources, rich tourist attractions (natural environment, culture), existing infrastructure (harbours and airports), the geographical position of the Region in the Mediterranean and the available scientific and entrepreneurial human resources.

Weaknesses include the intense differences in development between the islands, the serious shortage in water resources and energy, the high cost of transportation, the low degree of familiarity with high technology, the geographical discontinuity (insularity) and the seasonality of employment in the field of tourism.

Opportunities include the attraction of investments in specialized forms of tourism, the utilization of new communication technologies, the exploitation of the increasing demand for products of Controlled Denomination of Origin, the deregulation of sea transportations, the use of new methods and technologies for water resources management, the re-orientation of the targets of the Structural Funds, the opportunities for alternative forms of development and the utilization of EU funds for research and technology.

Threats include the development of competitive areas in the Mediterranean that produce lower-cost products and services, the unfavourable political developments in the broader area, the abandonment of islands or villages by people of productive age, climate changes and the political instability in the Near and Middle East. Also in threats the further dependence from the tourism is included. The future continuation of this situation will make the local productive system more sensitive to the demand changes and to the economic circle with negative consequences for the viability of the islands productive system.

Based on the preceding analysis, the main development target for the Region of the Notio Aigaio in the programming period 2007-2013 will be to *enhance the competitiveness* of the Region, focusing on two sectors: tourism and the utilization of natural and cultural resources. In addition, a third dynamic and "original" sector that can be targeted is the establishment of a network of investments in research and the production of high technology products and services.

The priorities by axis and the measures included in each of them are as follows:

1. Enhancement of competitiveness

- Control and diffusion of tourist activity in time and space.
- Promotion of mild and alternative forms of environmental friendly tourism.
- Promotion and protection of the cultural heritage.
- Support of the local agricultural and stockbreeding production of quality products.
- Land use planning (cadastre, special land planning studies for the management of water resources and energy).

2. Improvement of accessibility

- Promotion of coastal navigation to cover the needs of the population.
- Completion of transportation infrastructure.
- Enhancement of the efficiency of towns and decentralization of services.

3. Development of human resources

- Education (equipment, PCs)
- Vocational training, specialization
- Mobility of the workforce, attraction of productive-age population

4. Sustainability

- Environmental protection
- Infrastructure and waste management
- Water resources management
- Land planning and land use control

5. Public Administration

- Reinforcement of responsibilities / staffing of local government
- Establishment of local service units
- Mobility of employees (institutional arrangements, funds)

6. Support of islands & areas of low economic development

- Support and creation of SMEs and Tourism
- Satisfactory intra-regional communication and transportation by sea

7. Enhancement of inter-regional, cross-border and international cooperation

- Expand European networks/axes
- Seek out and take advantage of common development opportunities in the broader area of the Mediterranean.

8. Establishment of a network of investments in research and the production of high technology products and services.

- Find establishments with the necessary infrastructure (networks, communications, energy).
- Promote and motivate to attract investments and human resources.
- Mobilize and support scientific research and technological institutions.

Intraregional differentiation

The following intra-regional differentiations and effects of the regional priorities for development needs to be addressed

Competitiveness

In order to enhance competitiveness in the Region of the Notio Aigaio it is necessary to differentiate the measures according to areas and sectors:

a) in the tourism sector, where the Region needs to enhance its role as a quality destination of international scale:

- In the already developed areas and islands the measures should focus on the quality upgrading of tourist services and products, giving priority to the development of marine and conference tourism in high-end resorts.
- In the smaller islands, the measures should focus on the establishment of small scale infrastructure for the development of mild and alternative forms of tourism (environmental, marine, cultural etc) as well as family holidays.

b) in the sector of agriculture and stockbreeding, as well as in the sector of product manufacturing, the degree and the kind of the interventions should be differentiated according to the special natural resources of each island (land, water, flora and fauna, traditional industries). In these sectors, priority is given to innovative applications that aim at improving quality, rather than quantity.

c) in the sector of services, the quality of the provided as well as the extension in new services must be promoted in health, education and training, transport and energy systems etc, in order the quality of life of the people to be improved. Also, the production services as well as the services for the enterprises (like the financing and advisory services for them) must be strengthened.

d) in the other sectors, in combination with the above mentioned, the exploitation of other productive branches (like the biological cultures, the fishery, the shipping, the SMEs, the craft activities, the production and promotion of local products, the local cultural activities etc.) must be promoted for the integration of local economies.

Accessibility

The existing differentiation in coverage by ship itineraries, especially in smaller islands (the problem gets worse during the winter months) has negative effects on production procedures and on human resources.

Therefore, the priority in enhancing accessibility should involve the islands / areas with lower development and is expected to reduce intra-regional inequalities, to improve the quality of life, to improve social services and workforce mobility and to enhance the efficiency of projects and interventions.

Human resources and employment

This priority aims at creating and attracting human resources to cover the needs, especially in more developed islands and to develop the skills of the workforce in order to improve services in tourism, SMEs and in the primary sector. Special emphasis should be placed on enhancing awareness about such measures in order to increase participation.

Sustainability

The measures taken should address the sensible management of natural resources on one hand and the programming and monitoring of the type of "development" promoted on the other.

The effects of the sensible management of natural resources will reduce the environmental distress caused by tourist activities and it will help diffuse tourist flow towards smaller islands through the development of mild forms of tourism.

Public administration

The main priority is to cover vacant positions in public services and to plan a better and more effective allocation of current scientific and technical staff, improving their mobility within the islands of the Region.

An important tool for the improvement of public administration, especially on planning level, is a series of studies including: land use studies for the developed islands, land planning studies, environmental planning and monitoring studies on smaller islands and human resources studies.

Support of islands & areas of low economic development

This priority includes the commitment of funds for interventions in these areas in every sector (services, infrastructure, support for enterprises). The terms for the absorption of these funds should be more flexible compared to funds directed to the rest of the Region. In addition, these areas should be supported in the promotion of their claims and requests by the provision of know-how and of competent scientists by the regional and prefectorial services as well as by the private sector.

Enhancement of inter-regional, cross-border and international cooperation

Inter-regional, cross-border and international cooperation should be sought after in any kind, scale and direction, according to the nature of the participants. The central government should provide support through the publication of such opportunities.

Establishment of a network of investments in research and the production of high technology products and services

The realization of this long-term visionary target of the Region presupposes specifications and studies for appropriate spaces to establish investments (technological parks), necessary infrastructure (energy, communication and transportation networks) and the attraction of the necessary human resources.

Necessary institutional and organizational adjustments

In order to effectively promote the regional priorities for development, a series of institutional and organizational adjustments are required. These include the coverage of vacant positions in the public sector and in the local government, the improvement of the system of permit provision, the establishment of Citizen Service Centres on island and municipality level, the familiarization with new communication technologies, the production of the studies mentioned in paragraph 5.5 and the establishment of an incentives system for the insular part of Greece.

Finally at the programming level the micro-regional planning, through the delimitation of programming micro-regions, must be promoted. These micro-regions of programming are geographical entities (that comprise neighbouring spatial units) with common characteristics and problems. For example coastal areas, islander mountainous areas, small islands or small islands complexes, influence zones of the urban centers etc, can constitute such microregions.

Their function requires an administrative or at least a programming jurisdiction that is necessary for planning, implementing, monitoring, evaluating and adjusting regional policy and development programmes at the local level.

Through the micro-regional planning the special spatial problems of the islands could be faced more effectively.

ANNEX I: Methodology for transport indicators

The multi-index approach

Finding a unique measure of the transport conditions in a given region, even if the analysis is focused on one main aspect like accessibility, is a very difficult task. Both demand and supply conditions play a role and both can be seen from different perspectives so that each indicator is hardly more than just a limited point of view. For that reason, we decided to use different indicators, namely three indexes:

- Infrastructure Usage Index - IUI_j
- Accessibility Index - AI_j
- Connectivity Index - CI_j

The Infrastructure Usage Index measures the level of road and rail demand entering the region and leaving the region (i.e. generated and attracted traffic excluding trips starting and ending in the same region) in comparison to the supply of major roads and rails. The index is computed separately for road and rail and for passenger and freight⁶ by taking the ratio between the demand and the length of the main infrastructures (e.g. motorways, dual carriageway roads, etc.). Thus four separate ratios are computed. Then the logarithm of each ratio is computed and a weighted average of the four logs is computed where the weights are the modal shares of road and rail on passenger and freight demand. The weighted average is the Infrastructure Usage Index. The index is greater for zone where the ratio between demand and supply is higher, that is where infrastructure are more exploited.

The Accessibility Index is a synthetic measure of multimodal potential accessibility. It is based on the assumption that the attraction of a destination increases with its size (in terms of population or GDP) and declines with distance, travel time and costs. The accessibility model used in the ESPON study assumes the centroids of NUTS3 regions as origins and destinations and, then, calculates the minimum travel time (with respect to different modes of transport, that is by road, rail and air) between the various centroids. This indicator of potential accessibility contains parameters that need to be calibrated so that it cannot be expressed in

⁶ Generated and attracted traffic is estimated from the results of the European transport model SCENES.

familiar units. The higher is the index the higher is the accessibility. As a consequence, NUTS3 data are standardised to the average accessibility of the EU25 countries. NUTS2 indicators have been computed by the Statistical Team by averaging NUTS3 data provided by the ESPON database.

The Connectivity Index is expressed as the reciprocal of the hours needed to reach by car different transport nodes (rail stations, motorways accesses, seaports and airports) starting from the centroid of each NUTS3 region. Thus, regional centroids are taken as origins while transport terminal as destinations. The higher is the index the higher is the connectivity. Again such an indicator is available for NUTS3 European regions from ESPON and it has been averaged by the Statistical Team to obtain NUTS2 indexes.

All three indexes provide a piece of the story and there is not a hierarchy among them. As the analysis in section 2 will show, the Infrastructure Usage Index is somewhat correlated to the Accessibility Index, in the sense that zones where the former is greater than the median (showing a lower performance in terms of availability of infrastructures with respect to the generated and attracted demand), also the latter is greater than the median (showing a better performance in terms of accessibility). In other words, not surprisingly, the most accessible zones tend to be attract and generate more demand, in relative terms, than less accessible zones.

Furthermore, more than the numeric values, the most useful information is how the regions within a country are ranked according to each index and especially which performs better and which worse. When a region underperforms according to all the indexes, this is a hint that some problems exist concerning accessibility, and vice-versa if a region overperforms.

Therefore, the analysis consisted in the following steps:

- a) For each index the median across the NUTS2 regions of a given country has been computed: $MED(IUI)$, $MED(AI)$, $MED(CI)$. The median has been preferred to the mean because in most of the countries the distribution of the indexes is strongly asymmetrical and so the mean can be influenced by one or two very high (or low) values.
- b) Each region in the country has been classified as underperforming or overperforming in terms of each of the three indexes: underperforming have been considered those regions where the index is lower than the median (for the accessibility and the connectivity index) or, vice-versa, higher than the median (for the infrastructure usage index). This classification allows to compare regions in terms of a specific index.

- c) For each region has been computed the ratio between the value of the index for that zone and the median value computed above across all the zones of the country: $AI_j/MED(AI)$ and $CI_j/MED(CI)$ for the accessibility and the connectivity index or, vice-versa, the ratio between the median value and the value of the index for the zone: $MED(IUI)/IUI_j$ for the infrastructure usage index. These ratios are greater than one for zone overperforming and lower than one for the regions underperforming.
- d) For each region the three ratios computed above have been summed. The higher is the sum and the better the region performs. However, as the aim of the analysis is not computing a super-index, the value of the sum is not really relevant in itself. Instead, the average and the standard deviation of the sums have been computed. The zones where the sum of the ratios is lower than the average minus one standard deviation ($SUM_j < Average - DevSt$) can be considered as highly problematic with respect to the average conditions in the country. The zones where the sum of the ratios is lower than the average minus 75% of standard deviation ($SUM_j < Average - 0.75*DevSt$) can be considered as problematic even if at a less extent. On the opposite side, zone where the sum is higher than the average plus one standard deviation ($SUM_j > Average * DevSt$) can be considered as those with less problems concerning their accessibility.

This analysis mixes quantitative and qualitative indications to provide a comparative picture of region's performances. It should be stressed that the results make sense in relative terms (e.g. comparing the regions each other) rather than in absolute terms. In other words, a region can perform worse than other regions of the country but this does not mean that the accessibility is absolutely poor; if the overall situation is good in the whole country, even regions classified as underperforming can enjoy a good level of accessibility.

Multi index analysis

The multi index analysis is based on three different indicators:

- Infrastructure Usage Index - IUI_j
- Accessibility Index - AI_j
- Connectivity Index - CI_j

In Greece only two regions are eligible regions and, at the same time, the Infrastructure Usage Index could not be computed for other regions.

Greece. Indexes for the NUTS2 regions of Greece

NUTS2 region	IUI	AI	CI
107 Anatoliki Makedonia, Thraki	16.1	n.a.	n.a
108 Kentriki Makedonia	24.5	n.a.	n.a
109 Dytiki Makedonia	17.6	n.a.	n.a
110 Thessalia	25.3	n.a.	n.a
111 Ipeiros	11.6	n.a.	n.a
112 Ionia Nisia	n.a.	n.a.	n.a
113 Dytiki Ellada	17.0	n.a.	n.a
114 Sterea Ellada	21.0	46.4	1.5
115 Peloponnisos	18.5	n.a.	n.a
116 Attiki	45.8	n.a.	n.a
117 Voreio Aigaio	n.a.	n.a.	n.a
118 Notio Aigaio	n.a.	71.0	1.1
119 Kriti	n.a.	n.a.	n.a
Median	18.5	58.7	1.3
St. Dev.			

ANNEX II: Telecom indicators levels

Sources and definitions

The source is: ESPON project 1.2.2 Telecommunication Services and Networks: Territorial Trends and Basic Supply of Infrastructure for Territorial Cohesion.

Main telephone lines per 100 inhabitants:

Level 1 = >70

Level 2 = 60-69

Level 3 = 50-59

Level 4 = 40-49

Level 5 = 30-39

Level 6 = <30

Cellular mobile subscribers per 100 inhabitants:

Level 1 = >90

Level 2 = 80-89

Level 3 = 70-79

Level 4 = 60-69

Level 5 = 50-59

Level 6 = <50

Estimated PC per 100 inhabitants:

Level 1 = >50

Level 2 = 40-49

Level 3 = 30-39

Level 4 = 20-29

Level 5 = 10-19

Level 6 = <10

Internet (users per 10000 inhabitants):

Level 1 = >5000

Level 2 = 4000-4999

Level 3 = 3000-3999

Level 4 = 2000-2999

Level 5 = 1000-1999

Level 6 = <1000

ANNEX III: Methodology for environment indicators

Sources and definitions

Indicators at regional level Nuts II

1 - Energy

Indicator	Definition	Year	Source
EN1	GDP / total electricity consumption	2000	EUROSTAT – New Cronos (Regio)
EN2	Total electricity production capacity/ total electricity consumption	2000	EUROSTAT – New Cronos (Regio)
EN3	(Total electricity production capacity – Thermal power – Nuclear power)/ Total electricity production capacity	2000	EUROSTAT – New Cronos (Regio)
Energy sustainability	Energy sustainability indicator + Energy efficiency indicator	2000	EUROSTAT – New Cronos (Regio)

2 - Transport

Indicator	Definition	Year	Source
TR1	Vehicles Density: Total Number of Vehicles/Total Area	2000	EUROSTAT – New Cronos (Regio)
TR2	Non-fuel Transportation: Electricity Consumption in the Transport Sector/ Total Electricity Consumption	2000	EUROSTAT – New Cronos (Regio)
TR3	Traffic Intensity: (Total number of driven intra-regional trips/Total Area) + (Total number of kilometres made by journeys produced-generated by the region/Total Area)	2001	EUROSTAT – New Cronos (Regio)

Transportation impact	Traffic intensity sustainability indicator - Clean transportation indicator		EUROSTAT - New Cronos (Regio)
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3 - Natural resources

Indicator	Definition	Year	Source
NA1	Degree of protection: Area under Nature Protection/Total Area	2003	Irena Database
NA2	Wilderness degree: (Forest Area + Semi-Natural Area)/ Total Area	1996	Espon Corine Landcover Database
NA3	Anthropic degree: Artificial surface/ Total Area	1996	Espon Corine Landcover Database
NA4	Urban-Rural typology	1996	Espon Corine Landcover Database
Natural/rural assets indicator	(factor score - lowest score)/ (highest score - lowest score)*100		

4 - Natural hazard and Technological risk

Indicator	Definition	Year	Source
RK1	Natural hazards with anthropic implications-1: Regional flood hazard potential	1996-2002	Espon Database
RK2	Natural hazards with anthropic implications-2: (Size of burnt areas/Total area)*1000	2000	Espon Database
RK3	Polluting Sites Density: Number of Installations under IPPC obligation (IPPC Sites)/Total Area (hundreds Km2)	2000-2001	Eper-EEA
Natural risk indicator	$[(RK1 - \text{lowest value})/(\text{highest value} - \text{lowest value}) * 100] + [(RK2 - \text{lowest value})/(\text{highest value} - \text{lowest value}) * 100]$		

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