ET2050 - ANNEXES

ET2050 Interim Report 2

ANNEX 0 - Project Planning

Author: MCRIT & IGEAT

April 30th 2013

ANNEX 0: Project Planning

1. Synthesis of Work Carried Out until Second Interim Report

Until April 2013, the project has already undertaken the tasks below. In gray, activities already carried out after the delivery of the First Interim Report.

Task	Activity
WP1 Management	TPG meeting with Sounding Board in Brussels (March 2012) Development / maintenance of the ET2050 website (www.et2050.eu) as knowledge-sharing and communication environment TPG meeting with Sounding Board in Brussels (September 2012). Delivery of Inception Report (December 2011), 1st Interim Report (May 2012) Amendments to 1st Interim Report (October 2012)
Task 2.1 Interactive participation	Meetings with the European Parliament (September 2012, February 2013) Policy Workshops with ESPON MC in Krakow (December 2011) Policy Workshops with ESPON MC in Aalborg (June 2012), Brussels (September 2012), Paphos (December 2012), Luxemburg (March 2013) Participation in the INTERACT ESPON event in Luxemburg (September 2012) Meeting at the Ministry of Regional Development of Poland (November 2012) Scientific Workshops at Aalborg and Paphos ESPON Seminars (June and December 2012) First set of small group consultation meetings (April-May 2012) Second set of small group consultations (November – December 2012)
Task 2.2 Data gathering and modelling resources	Adaptation of models to ET2050 requirements. Documentation of ET2050 foresight models (www.et2050.eu) Refinement of data to cover ESPON space outside EU27 as far as possible. Refinement of criteria and indicators to be used within the analysing and building processes of the project (mostly through TIA) Final selection of TIA indicators in ESPON MC Workshop in Paphos (December 2012) Modellers Workshop in Milan (February 2013) to discuss approach and first results of models

Task	Activity
Task 2.3 Present territorial state of Europe	Elaboration of 8 sectoral reports analysing most relevant trends in Europe: demography, economy, technology, transport, energy, land-use, environment, governance (reports available at www.et2050.eu) Elaboration of 9 macro-regional reports analysing sector specificities in different areas of Europe, threats and opportunities: South-west Mediterranean, Central Mediterranean, North-west region, Central and Alpine region, Baltic and Northern Peripheries, Danube, South-eastern region, Eastern region, and Outermost regions (reports available at www.et2050.eu). Synthesis of key trends in 125 key points
Task 2.4 Baseline Scenario 2030 and 2050	Analysis of existing official Baseline Scenarios in Europe as a basis for formulating baseline scenarios for ET2050 (annex report available at www.et2050.eu) Definition of Critical Bifurcations or challenges for Europe Definition of Key Directions assumed by Baseline in response to Critical Bifurcations. First quantitative set of indicators for Baseline 2010-2050 using foresight tools, to build a common base of hypothesis for modellers to implement the Baseline Scenario. Model runs of MULTIPOLES, MASST, MOSAIC, METRONAMICA and SASI, and elaboration of a Quantitative Baseline. Interpretation of Baseline results at European and Macro-regional levels.
Task 2.5 Exploratory Scenarios	Discussion about alternative approaches to design Explorative Scenarios with ESPON MC in a Workshop in Paphos (December 2012). Analysis of approximately 100 scenario reports (300 scenarios) as a basis for formulating ET2050 scenarios (annex report available at www.et2050.eu) Setup of basic hypothesis and characteristics for scenario implementation Model runs of MULTIPOLES, MASST, MOSAIC, METRONAMICA and SASI, and elaboration of three Exploratory Scenarios. Analysis of Scenario results at European and Macro-regional levels.
Task 2.6 Vision	Identification of free-thinkers' visions of the long-term futures for Europe and the rest of the World. Analysis of existing territorial VISIONS at European and Macro-regional level Participatory activities targeted at establishing hypothesis for the Vision Developing a draft Roadmap for the process together with ESPON CU
Task 2.7 Political pathways	Identification of policy targets derived from key EU policy documents and directives Analysis of European Policies Integration of a dataset with modelling results as input for TV+
Task 2.8 Innovative visualisation	Incorporation of infography, videos on future trends, videos on key trends in macro-regions, and existing territorial symbolic cartography on European Visions. Extension and maintenance of ET2050 website Elaboration of European maps to illustrate the ET2050 Exploratory Scenarios Elaboration of a 1st illustrative movie of the basic hypothesis of the ET2050 Exploratory Scenarios, discussed with the ESPON MC in Paphos Workshop

Figure - Activities carried out until Second Interim Report

2. Schedule of ET2050 Participatory Activities

Achieved task | Partially achieved task | Pending Task

Date	Place	Objectives / Contribution to the project	Actors involved	Activity Format
2012	**Month 5 to Month 16**			
Jan. to April		Input to thematic and macroregional reports	Relevant ET 2050 PPs Scientific, policy analyst and policy makers	Personal interviews
March	Web mail	Awareness raising	Group 2 (policy makers) and Group 4 (experts)	"Courtesy mail", information on ET 2050
May	Brussels	Input to / hypotheses for baseline scenarios, exploratory scenarios and Territorial Vision	PP3 Group 2 (policy makers) and Group 4 (experts)	Small group & individual consultations Interactive participation: questionnaire, interviews, small group meetings, video conference
June	Aalborg	Baseline scenario 2030 , first presentation Input to prepare the MC WORKSHOP 28 SEPTEMBER, dedicated to the policy- aims and criteria to elaborate the Territorial Vision	ET 2050 LP, PP3 MC, DG Regio, CU	Policy workshop 2 (dedicated session of MC meeting) presentation and discussion
June	Aalborg	Key findings of the 1st Interim Report Critical questions to identify 2013-2020 trends, building blocks for the exploratory scenarios	ET 2050: LP and relevant PPs Participants in ESPON open seminar	Scientific workshop 2 ESPON Open seminar (dedicated session) Interactive sessions (quantitative survey and qualitative questionnaire)
Sept.	Brussels	Awareness raising Involvement	Et 2050 LP+ PP 9 CU director Eu Parliament representative (REGI commission)	Policy maker face-to-face consultation 1
Sept.	Brussels	Input on the policy- aims and criteria to elaborate the Territorial Vision, and influence elaboration of exploratory scenarios	ET 2050 LP PP3 MC, DG regio, CU	Policy workshop 3 interactive session (90 minutes) based on answers to questionnaire delivered in July to MC members
Oct.	Web mail	Awareness raising	PP3 Gr 3	Courtesy mail
Oct. to Dec.	Brussels	*I*nput to the fine tuning of the baseline scenario 2050 storyline Input to exploratory scenarios and territorial vision	PP3 key EU actors: DG (MOVE, AGRI, REGIO, ENVI, …) EESC	Small group and individual consultations Interactive participation: questionnaire, interviews
Nov. and Dec.	Brussels	Input to exploratory scenarios and territorial vision	PP3 key EU and non EU actors, from GR 3 (non public)	Small group and individual consultations Interactive participation: questionnaire, interviews, small group meetings
Dec.	Cyprus (Paphos)	Input to the exploratory scenarios in terms of consistency, likelihood and desirability, criteria for TIA. Discussion on methods and input to elaborate the Vision, and first proposal on hypothesis	ET 2050 LP, PP3 + PP 4,5,7 MC, DG Regio, CU	Policy workshop 4 dedicated half day session of the MC meeting interactive presentation (communication and media tools: PP 13)

Date	Place	Objectives / Contribution to the project	Actors involved	Activity Format
2013	**Month 17 to Month 28**			
Feb.	Brussels	Involvement of EU Parliament	Et 2050 LP, PP3 and PP 9 ESPON CU (Director Eu Parliament, REGI president D Hubner	Policy maker face to face consultation 2: Presentation of Baseline scenario and related maps development
March	Lux.	Dissemination of baseline scenario results discussion of hypotheses and storyline	LP ET 2050 PP5 MC CU	Policy workshop 5 Mc meeting Presentation of Baseline scenario and related maps development
30 April: Second interim report				
12 June	Dublin	Short Presentation of draft exploratory scenarios, focusing on element in relation with the territorial Vision. Testing first elements for territorial Vision, Gather Input to elaborate territorial vision	ET 2050 steering committee + relevant partners ESPON CU MC DG Regio	Policy workshop 6: Towards Territorial Vision MC meeting, 90 minutes interaction on ranking and mapping see ID (May 2013) for more details
13 June	Dublin	Testing the consistency and likelihood of exploratory scenarios (draft final), Input to Territorial Vision, in relation with scenarios	ET 2050 steering committee + relevant partners Participants in ESPON Open seminar	Scientific experts (3) and other stakeholders survey ESPON seminar: Plenary session
25 June	Brussels	Involving main EU institutions, awareness raising and preparation of 7 October 2013 seminar	Et 2050 LP, PP3 and PP 9 CU DG Regio	Policy workshop 7 Presentation of scenarios and related maps development introduction to Vision Design process
25 June	Brussels	Involving main EU institutions, Awareness raising, and preparation of REGI hearings 18-19 September 2013	Et 2050 LP, PP3 and PP 9 CU EU Parliament/ REGI committee, CoR /COTER	Policy maker face to face consultation 3: Presentation of scenarios and related maps development introduction to Vision Design process
10 Sept. (date tbc)	Brussels or Lux	Involvement in vision design process	LP, PP3 CU MC Dg Regio	Policy workshop 8 MC meeting Presentation and discussion of first draft Territorial Vision
18/19 Sept.	Brussels	Involving main EU institutions in scenarios results and Vision design process	Cu, LP, PP9, PP3, other invited Hearings of EU Parliament REGI Committee	Large audience conference Awareness raising and Dissemination
mid Sept	Brussels	Involving main EU institutions in Vision design process, preparation of 7 October 2013 seminar	Et 2050 LP, PP3 and PP 9 CU DG Regio	Policy workshop 9 (tbc) Presentation and discussion of draft final exploratory scenarios and first draft Territorial Vision
7 Oct.	Brussels	Presentation of ET 2050 outcome: (dissemination) Workshops on territorial Vision (involvement)	All PPs from Et 2050 Stakeholders group 1,2 and 3 MC, CU, DG Regio Invited high level experts and policy makers	ESPON Vision workshop Large audience conference: dedicated to ET 2050 territorial Vision 2 plenary sessions and smaller workshops 10h-16h30 (for details see ID)
Oct	website	Consultation on Draft territorial Vision	ET 2050 steering	Mail consultation, +

		and midterm target and path ways	committee GR 2,3 and 4 Participants of 7 October 2013 seminar	Possibilities of small group consultation use of database from PP3, on result from activities until 7 October (included), and first element of midterm target and path ways
Dec	Lithuania	Discussion on exploratory scenarios, Territorial vision, midterm target and pathways	ET 2050 relevant PPs Participants to ESPON seminar,	Scientific workshop 4 ; on draft TV and draft mid term target and pathways ESPON Internal seminar
Dec	Lithuania	Discussion of draft Territorial Vision And draft midterm target an pathways	ET 2050 steering committee MC , DG Regio, CU	Policy workshop 10 MC meeting Consensus building on the territorial Vision
2014	**Month 29**	**to Month 34: final report**		
January- 28 February: fine tuning TV and mid term target and path ways *Draft Final Report*				
March	Brussels	Communication on the Territorial Vision Fine tuning mid-term targets and pathways	All groups	Dissemination Using DFR
June	Greece	Presentation of Territorial Vision and mid-term target and pathways	ET 2050 relevant PPs and expert , Participants in ESPON Open seminar	ESPON Open seminar
June	Greece	Validation of the Territorial Vision Validation of midterm targets and pathways	ET 2050 steering committee MC, DG Regio, CU	MC meeting Policy workshop 11

Figure - Participatory Plan (updated 25/04/2013)

2. Schedule of ET2050 Research Activities

Next table provides an updated full list of ET2050 internal milestones (including delivery dates) for a successful accomplishment of the project (*deadlines and responsible partners are subject to change to be adapted to participatory events).* In yellow task achieved, or partially achieved.

Achieved task	Partially achieved task	Pending Task

Deliverable	Character	Deadline	Responsible
Management notes	Internally	Monthly	MCRIT
Updates	Internally	Periodically	MCRIT
Administrative and financial reports	To ESPON CU	Every 6th months	MCRIT
Minutes of meetings	Internal	After events	MCRIT
Internal surveys and peer reviews related to reports to be submitted to ESPON CU	Website brief notes	10 on-line surveys	MCRIT
Participatory plan	Inception report	Month 4	IGEAT
Directory of stakeholders by target groups	Inception report	Month 4	IGEAT
Website hosting, design, development and maintenance	Inception report	Month 4	ERSILIA
Methods for interaction	Inception report	Month 4	MCRIT
Preparation of the participatory events (15 events in 3 years)	Documented on the website	All over	IGEAT/MCRIT
Reports of the events to be published in the website	Documented on the website	All over	IGEAT/MCRIT
Small group discussions, interviews and on-line activities	Documented on the website	Month 4	IGEAT
SPQR systematic model description	Inception report	Month 1	MCRIT
Data needs: demography (based on MULTIPOLES)	Inception report	Month 4	IOM
Data needs: economy (based on MASST)	Inception report	Month 4	POLIMI
Data needs: transport (based on T/IC+)	Inception report	Month 4	MCRIT
Data needs: land-use (based on METRONAMICA)	Inception report	Month 4	RIKS
Data needs: territory (based on SASI)	Inception report	Month 4	S&W
TV+ & PASH+ development plan	Inception report	Month 4	MCRIT
Forecast models development plans (MULTIPOLES, MASST, T/IC+, SASI, PASH+, TV+)	Inception report	Month 4	MCRIT, POLIMI, IOM, S&W, RIKS

Deliverable	Character	Deadline	Responsible
Draft criteria for TIA to be applied in all scenarios and visions	Inception report	Month 4	POLIMI
Indicators for TIA to be applied in all scenarios and visions	Inception report	Month 5	POLIMI

Inception report	**December 2011**	**Month 4**	

Adaptation of MULTIPOLES	Documented on the website	Month 7	IOM
Adaptation of MASST	Documented on the website	Month 7	POLIMI
Adaptation of T/IC+	Documented on the website	Month 7	MCRIT
Adaptation of METRONAMICA	Documented on the website	Month 7	RIKS
Adaptation of SASI	Documented on the website	Month 7	S&W
Adaptation PASH+ & TV+	Documented on the website	Month 11	MCRIT

South West Med Region	Published in the website	Month 8	MCRIT
Central Med Region	Published in the website	Month 8	POLIMI
North-West Region	Published in the website	Month 8	IGEAT
Central and Alpine Region	Published in the website	Month 8	S&W
Baltic and Nordic Region	Published in the website	Month 8	Nordregio
Danubian Region	Published in the website	Month 8	RKK
South-Eastern Region	Published in the website	Month 8	Thessaly
Eastern Region	Published in the website	Month 8	Warsow School of Economics
Outermost regions	Published in the website	Month 8	MCRIT

Demographic trends and potential territorial impacts	Published in the website	Month 8	CEFMR / IOM

Deliverable	Character	Deadline	Responsible
Economic trends and potential territorial impacts	Published in the website	Month 8	POLIMI
Technologic trends and potential territorial impacts in Europe	Published in the website	Month 8	MCRIT
Transport trends and potential territorial impacts	Published in the website	Month 8	MCRIT
Energy trends and potential territorial impacts	Published in the website	Month 8	TERSYN
Land-use trends and potential territorial impacts	Published in the website	Month 8	RIKS
Environmental trends and potential territorial impacts	Published in the website	Month 8	IGEAT
Governance trends and potential territorial impacts	Published in the website	Month 8	Nordregio

Trends and territorial impacts by sectors. Integrated report	Interim Report 1	Month 8	MCRIT
Trends by transnational zones. Integrated report.	Interim Report 1	Month 8	MCRIT
Report on reference Scenarios and Visions for Europe and the World	Interim Report 1	Month 6	ISIS / MCRIT
Thematic workshop for discussing the Present State of the European Territory	Website	Month 7	IGEAT
Report on the State of the European Territory (based on trends by sectors and zones)	Interim Report 1	Month 9	MCRIT
Reference data to be provided by modellers	Interim Report 1	Month 9	MCRIT
Updated participatory plan	Interim report	Month 9	IGEAT
Directory of stakeholders by target groups	Interim report	Month 9	IGEAT
Preliminary synthesis of eisting territorial vision	Interim report	Month 9	IGEAT
Small group consultations and interviews, phase 1, groups 2 and 4, synthesis	Interim report	Month 9	IGEAT

Interim report 1	**May 2012**	**Month 9**	

Forecast Baseline for 2030 Baseline (by enhanced MULTIPOLES, MASST, T/IC+, SASI)	Website	Month 10	MCRIT, POLIMI, IOM, S&W, RIKS
Baseline scenario 2030	Interim Report 2	Month 10	MCRIT, POLIMI, S&W
Policy-oriented workshop for Baseline 2030	Website	Month 10	IGEAT
Scientific-oriented workshop for Baseline 2030	Website	Month 10	IGEAT/MCRIT

Deliverable	Character	Deadline	Responsible
Foresight for 2050 Baseline	Website	Month 11	MCRIT
Baseline scenario 2050	Interim Report 2	Month 12	MCRIT, POLIMI, S&W
Policy workshop with stakeholders group 1 on scenarios 2030-2050 and nature of Vision	Website	Month 13	IGEAT
Territorial assessment of the baseline scenarios	Interim Report 2	Month 14	POLIMI
Assumptions for the three exploratory scenarios	Website	Month 16	MCRIT, POLIMI, S&W
Scientific-oriented workshop for Baseline 2030-2050 and first insides on Scenarios	Website	Month 16	MCRIT
Policy-oriented workshop for Baseline 2030-2050 and first insides on Scenarios and Vision	Website	Month 16	IGEAT/MCRIT
Small group consultation (gr 2 and 3) and interview, synthesis	Interim report	Month 17	IGEAT
Data produced by forecast and foresight activities	Website	Month 18	MCRIT
Policy Workshop on Baseline scenario	Website	Month 19	MCRIT, POLIMI
Three exploratory scenarios	Interim Report 2	Month 19	MCRIT, POLIMI, S&W
Forecast for 2030 Exploratory Scenarios	Website	Month 19	MCRIT, POLIMI, IOM, S&W, RIKS
Foresight for 2050 Exploratory Scenarios	Website	Month 19	MCRIT
Territorial assessment of the exploratory scenarios	Interim Report 2	Month 20	POLIMI
Vision design process, (method, framework, analytical synthsis of existing vision)	Interim report 2	Month 20	IGEAT
Updating participatory plan (phase 2)	Interim report 2	Month 20	IGEAT

Interim report 2	**April 2013**	**Month 20**	

Scientific-workshop to consolidate Exploratory Scenarios	Website	Month 22	MCRIT, IGEAT
Policy-workshop on Territorial Vision	Website	Month 22	IGEAT
Synthesis document with orientations for the Territorial Vision	Website	Month 25	IGEAT,MCRIT
Foresight for 2050 Exploratory Scenarios	Website	Month 26	MCRIT
Thematic workshop with stakeholders to discuss the European Territorial Vision 2050	Website report	Month 26	IGEAT
Scientific workshop to discuss the European Territorial Vision 2050	Website report	Month 25	IGEAT

Deliverable	Character	Deadline	Responsible
Policy workshop to discuss the European Territorial Vision 2050	Website report	Month 28	IGEAT
European Territorial Vision for 2050, reviewed by the discussions	Draft final report	Month 28	IGEAT,MCRIT, POLIMI, IOM, S&W, RIKS
Draft final report	**February 2014**	**Month 30**	
Scientific workshop to consolidate exploratory scenarios and the European Territorial Vision	Website report	Month 33	MCRIT/IGEAT
Policy workshop to consolidate the European Territorial Vision	Website report	Month 33	IGEAT
Mid-term targets with territorial differentiation	Final report	Month 33	MCRIT
Pathways for types or regions	Final report	Month 33	MCRIT, POLIMI, IOM, S&W, RIKS
Policy recommendations	Final report	Month 29	MCRIT, POLIMI, IOM, S&W, RIKS
Territorial governance arrangements	Final report	Month 33	MCRIT, POLIMI, IOM, S&W, RIKS, IGEAT
Final report	**June 2014**	**Month 34**	
Posters, brochures and leaflets designed and disseminated	Electronic dissemination	Month 34	ERSILIA
Multimedia products representing the scenarios and the Vision (6 in total)	Electronic dissemination	Month 34	ERSILIA
Final website as a repository of produced material	Electronic dissemination	Month 37	MCRIT
On-line survey to a wider audience	Electronic dissemination	Month 35	MCRIT
Material for ESPON Capitalisation Strategy	Electronic dissemination	Month 37	MCRIT
Redesign of communication material for wider dissemination purposes	Electronic dissemination	Month 37	ERSILIA

Figure - Updated Tentative schedule of internal milestones and partner involvement

ET2050 Interim Report 2

ANNEX I - Demographic scenarios. Assumptions and results

Author: CEFMR/IOM

April 30th 2013

ESPON

Territorial Scenarios and Visions for Europe (ET2050)

MULTIPOLES demographic scenarios - assumptions and results

Prepared by Dorota Kupiszewska and Marek Kupiszewski

Table of contents

List of figures

List of maps

1. The MULTIPOLES model

The report briefly presents the assumptions and results of the demographic scenarios prepared within the ET2050 project. The Baseline scenario (2010-2050) and three exploratory scenarios (2010-2030) are presented. The scenarios were prepared using the MULTIPOLES model. MULTIPOLES is a cohort-component, multistate, hierarchical population projection model, capable to model population and labour force (by sex and 5-year age group) for multi-country, multiregional systems or for multi-ethnic systems. It can be used to produce projections, simulations and forecasts of complex hierarchical population systems and to analyse the impact of various scenarios concerning migration, fertility, mortality and economic activity on population and labour force size and structure. MULTIPOLES was specifically designed to model the impact of three categories of migration: internal, international within the system (e.g. within EU) and from outside of the modelled system.

2. Assumptions for the Baseline scenario

In MULTIPOLES the assumptions are formulated for each component of population change, i.e. for fertility, mortality and migration. In the case of the first two components, we have reasonably good data about past trends in Europe and based on this information we are trying to make predictions for the future. For migration, the situation is far more difficult as the required data on international migration are not reliable and not available on the regional level. Estimates of net migration to Europe reported in various sources (Eurostat data, MIMOSA project estimate, IMEM project estimate) vary significantly. There are also problems with the availability of recent data on internal migration (matrices of flows between NUTS2 regions by age and sex). Given the lack of reliable data on migration, we have to accept a large degree of uncertainty of any population forecasts.

In order to deal with the problem of data quality and availability, it is important to take into account various existing sources of information on past trends and various existing forecasts for the future. When preparing our demographic scenarios for ET2050, we were guided by five main sources: Eurostat data and projections, data from national statistical institutes, migration estimates from the MIMOSA project funded by Eurostat, migration estimates from the IMEM project conducted within the NORFACE program, and population projections prepared within the ESPON's DEMIFER project. The latter ones were very useful as they were prepared on a regional level (NUTS2), while the Eurostat's EUROPOP2010 population projections were prepared on the national level only. In the DEMIFER project, four regional scenarios were prepared, covering the period 2005-2050 (Rees et al., 2010). In ET2050, we used some information from two scenarios: *Growing Social Europe* (GSE) scenario and *Limited Social Europe* (LSE) scenario. These two scenarios assumed regional cohesion but differed in the assumptions about the economic development.

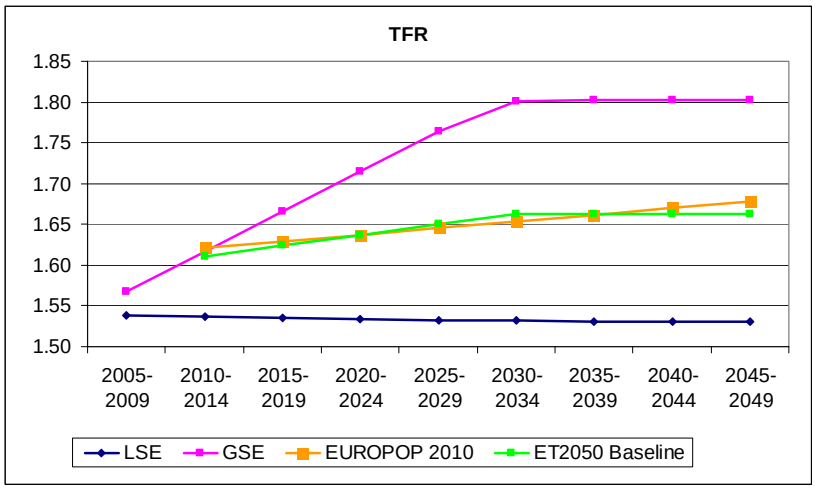
The demographic Baseline scenario assumes „business as usual" conditions, no major policy changes and slow economic recovery. We assumed that the number of

immigrants will be growing slowly to respond to the labour shortage (related to aging Europe).

Fertility assumptions

We assume that total fertility rate (TFR) will increase from 1.61 to 1.66 in 2030, then it will be stable. Age specific rates in 2010-15 will be as in the DEMIFER's GSE scenario, then they increase linearly until 2030-35 to values equal to the average of those in the GSE and LSE scenarios and then will remain constant over the period 2035-50. The assumed 2010-2050 values of TFR are very similar to those assumed in the Eurostats's EUROPOP 2010 projection (see Figure 1).

Figure 1 Assumptions on total fertility rate in the ET2050 Baseline, EUROPOP 2010 and DEMIFER

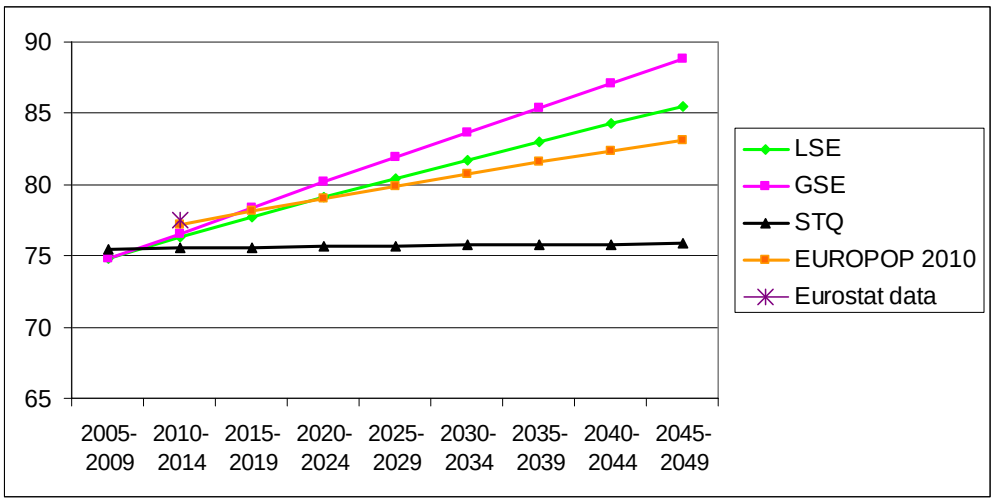


Mortality assumptions

Two observations were important when formulating the assumptions about mortality: (i) Life expectancy observed in Europe in 2010 (77 for men and 83 for women; Eurostat data) were higher than forecasted in the EUROPOP 2010 Eurostat's projection and in DEMIFER's scenarios; (ii) future life expectancy has been underestimated in most forecasts prepared for European countries in the past.

We assumed that life expectancy will increase to 81 years for men and 86 years for women in 2025-30 and to 85 years for men and 90 years for women in 2045-50. The assumptions about the age and sex specific mortality rates were as follows: 2010-2014 rates will be as in 2015-2020 in the DEMIFER's LSE scenario, and they will decrease linearly to reach 2045-50 rates as in DEMIFER's LSE scenario (Figure 2).

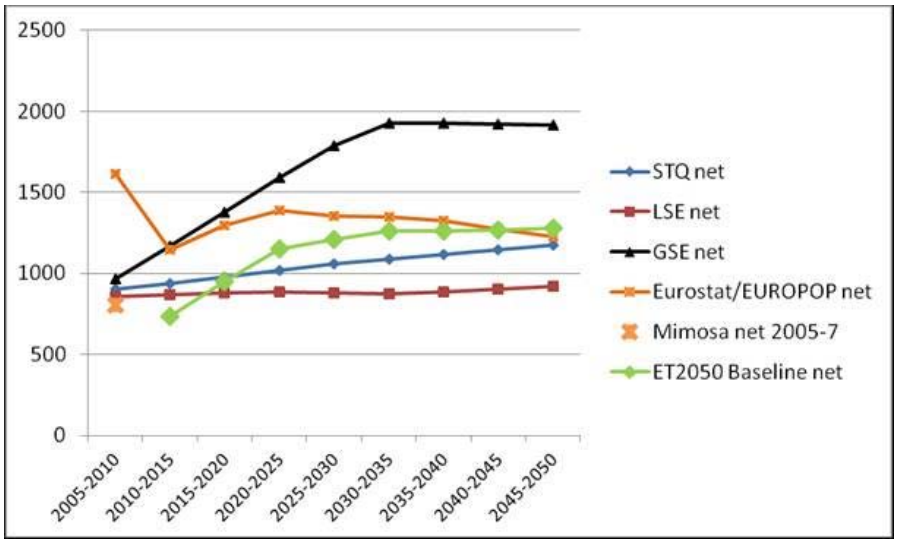
Figure 2 Assumptions on life expectancy in EUROPOP 2010 and DEMIFER



Assumptions on migration

We assumed that until 2030-35 extra-Europe immigration will increase by 2 per cent e very 5 years, then it will be constant. In the most crisis-hit countries the increase will be delayed by five years. For international intra-Europe migration (age and sex-specific emigration rates) it was assumed that in the least crisis-hit countries the rates will be constant, as estimated for 2010 based on the MIMOSA project, the IMEM project and the most recent Eurostat data. In the most crisis-hit countries (CY, GR, IT, ES, PT, IE,…): the crisis-related increased rates will gradually drop back to the pre-crises values in 2020-25 and then will be constant. For internal migration (inter-regional, within each country) the rates were based on the estimates prepared in the DEMIFER's LSE scenario (which assumed that the average level of mobility will maintained but regional differences will decrease).

Figure 3 Annual net migration 2010-2050, ET2050 Baseline, EUROPOP 2010 and DEMIFER scenarios

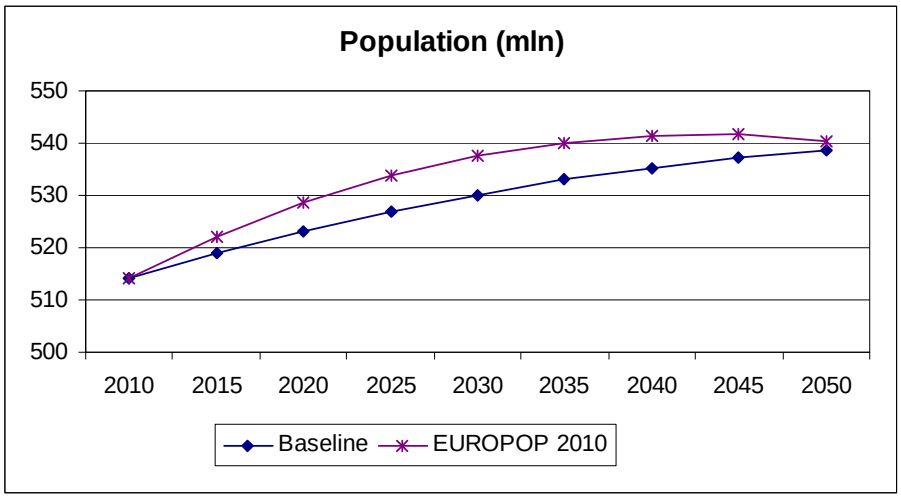


3. Baseline scenario – the results

Total population of 31 European countries will grow slowly, from 514 mln in 2010 to 539 mln in 2050 (Figure 4).

Europe as a whole will be growing under the Baseline scenario but many regions (40 per cent) will be declining. On Map 1 the regions which gain population are marked in green, those which loose population are marked in red. The largest depopulation is observed in the former socialist countries (mainly as a result of the intra-Europe emigration) and Portugal. Population growth is expected in northern Europe, France, Benelux, southern Spain and northern and central Italy, as well as regions with megacities and large cities. Population growth is induced by immigration or immigration coupled with relatively high fertility

Figure 4 Population of 31 ESPON countries, Baseline scenario and EUROPOP 2010



Aging is universal across Europe. Figure 5 shows the aging process for the 31 ESPON countries aggregate, by comparing the age pyramids in 2010 and in 2050. As shown in Figure 6, the share of population aged 65 years or more will increase from 17 per cent in 2010 to 30 per cent in 2050.

Figure 5 Age pyramids 2010 and 2050, ESPON countries, Baseline scenario.

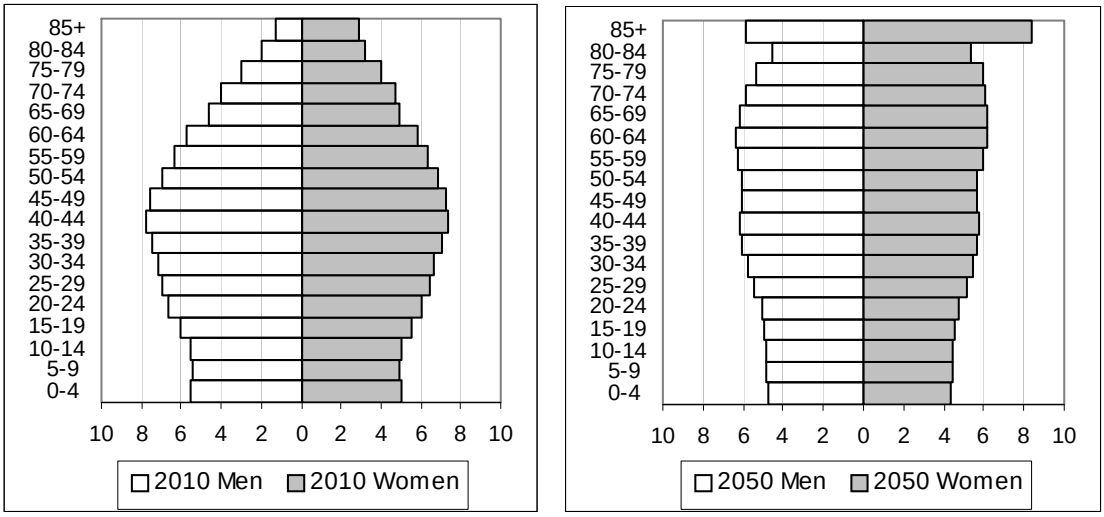
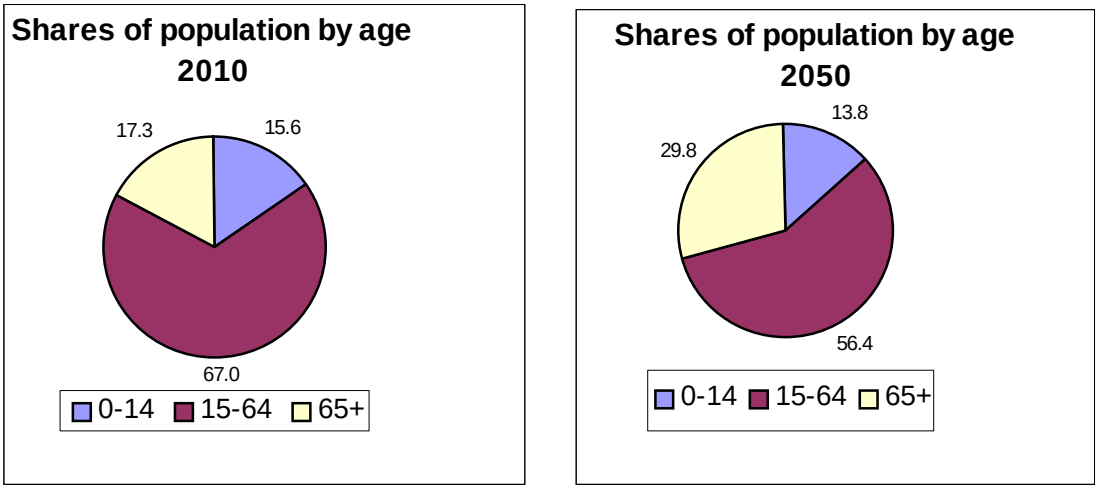


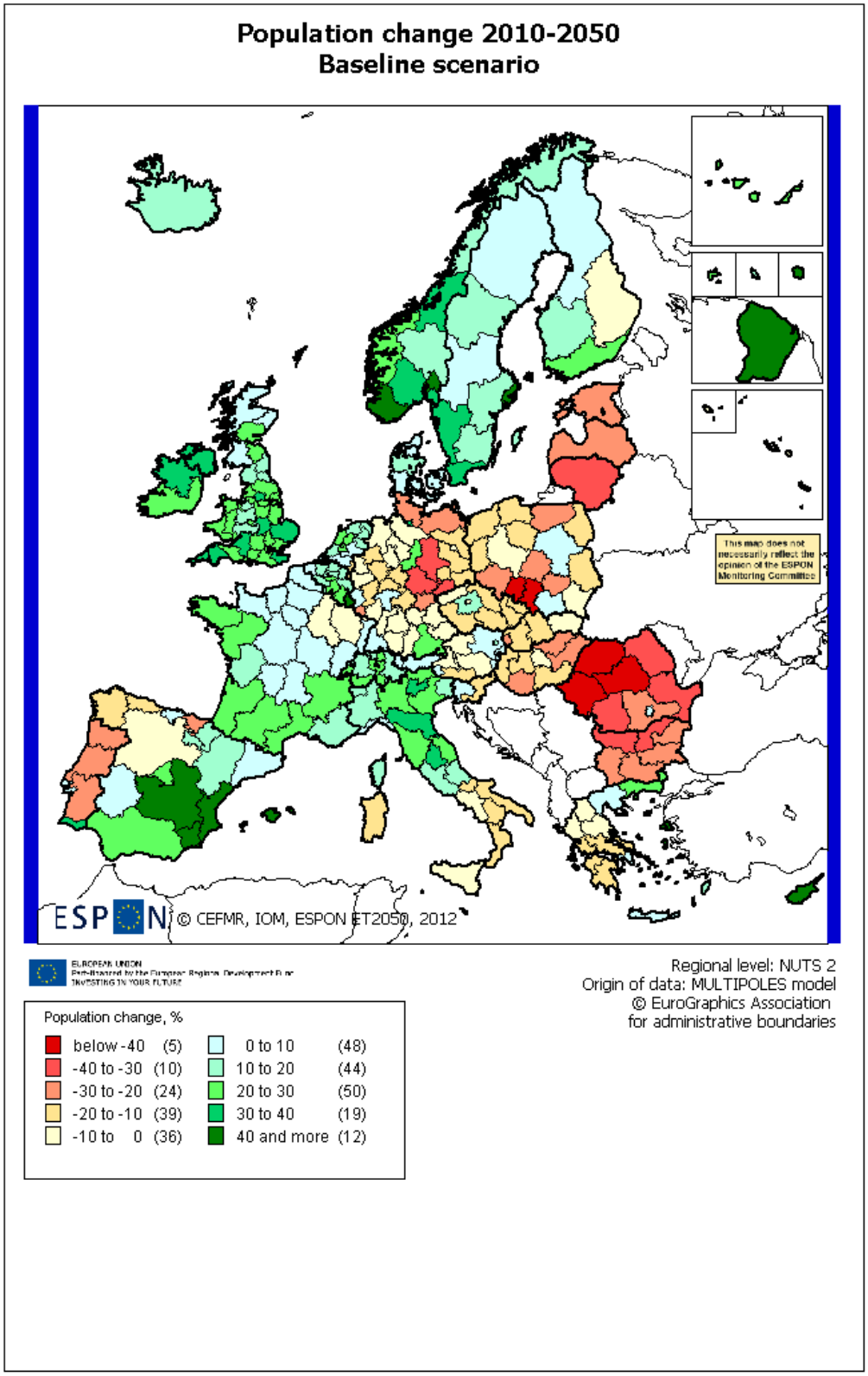
Figure 6 Broad age structure of the population of the 31 countries, 2010 and 2050, Baseline scenario.



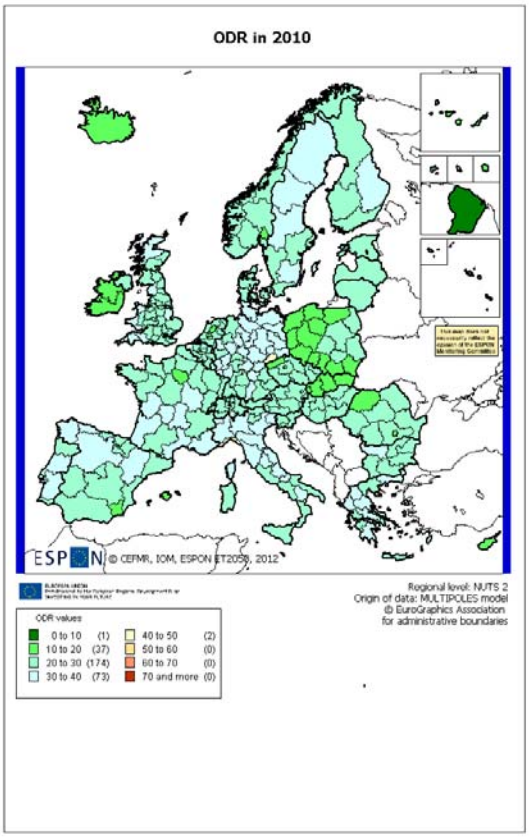
A synthetic indicator of the age structure of population is old-age dependency ratio (ODR) defined as the number of persons aged 65 or more per one hundred persons in the working age. The ODR values in European regions in 2010, 2030 and 2050 are presented on Map 2. The ODR values observed in the majority of regions will grow from 20-30 persons aged 65+ per 100 persons in the working age in 2010 to 40-60 in 2050. In 2010, ODR not exceeding 30 was observed in 212 regions in Europe (74 per cent of regions), in 2050 only in 2. ODR above 60 was not noted in 2010, while such level of ODR is expected to be observed in 73 regions in 2050

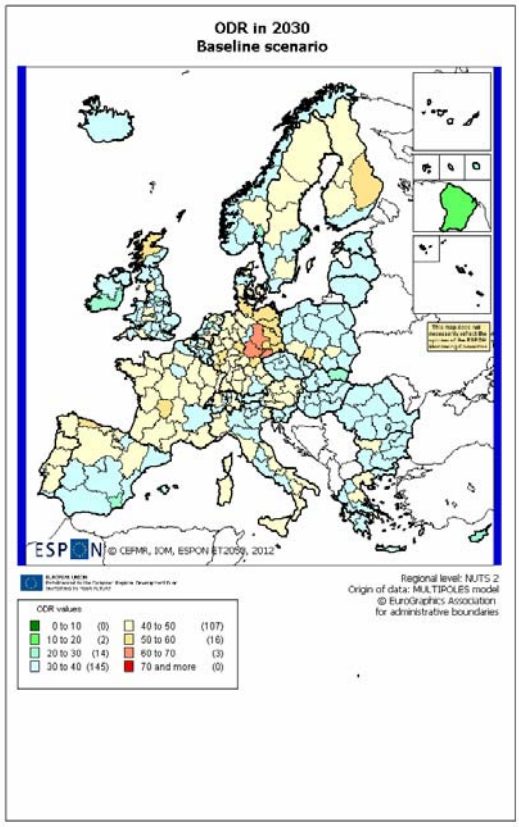
Most advanced aging will be observed in the former GDR, except Berlin, in Portugal except Lisbon and Algarve and in northern Spain. Speed of aging (measured here as the ODR change over a specified time) also vary between the countries (Map 3). Fast aging, reinforced by emigration of persons in the working age, is observed in the former socialist countries. Poland will change it status from young in 2010 to old in 2050. Relatively slow speed of aging is observed in Spain, Italy and the UK thanks to immigration flows.

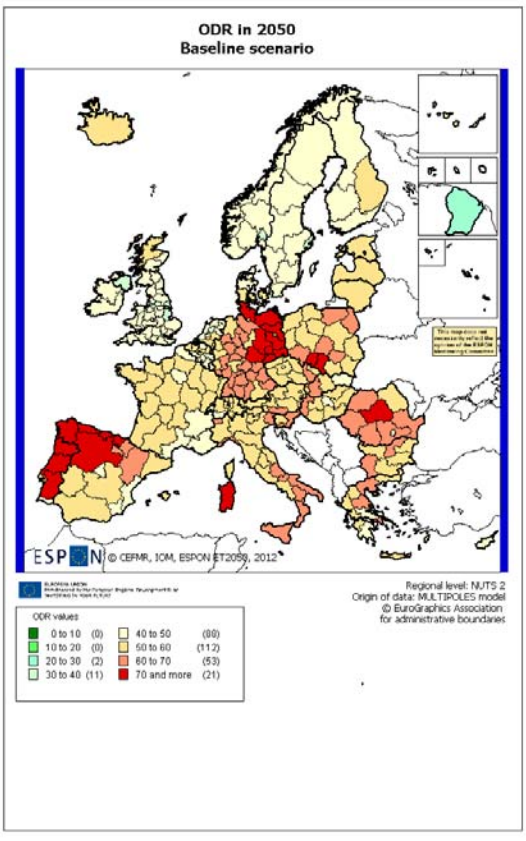
Map 1 Population change 2010-2050, Baseline scenario



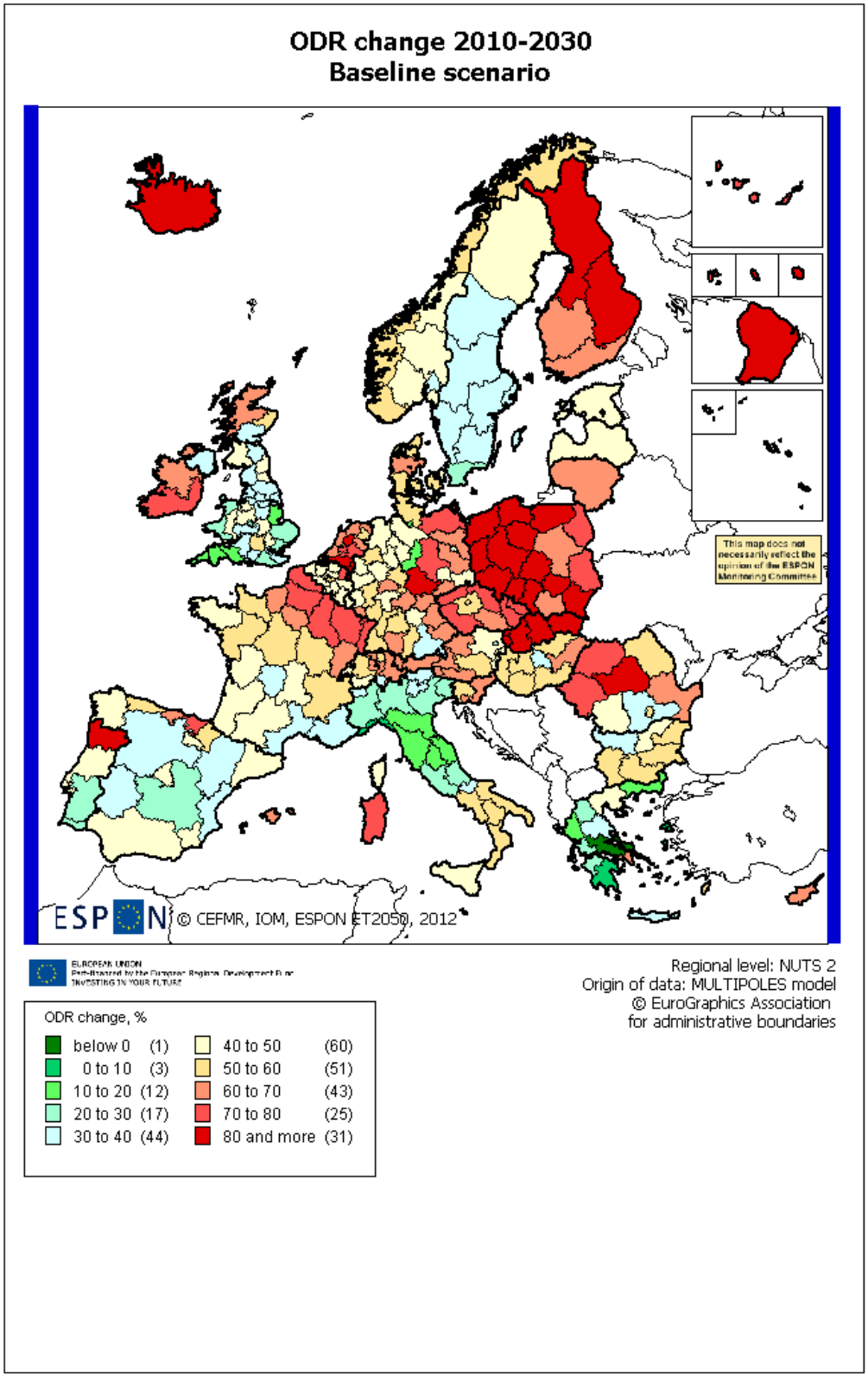
Map 2 Old-age dependency ratios, 2010, 2030, 2050, Baseline scenario.







Map 3 ODR change 2010-2030, Baseline scenario



4. Assumptions for the exploratory scenarios

The general assumptions for the three exploratory scenarios were as follows.

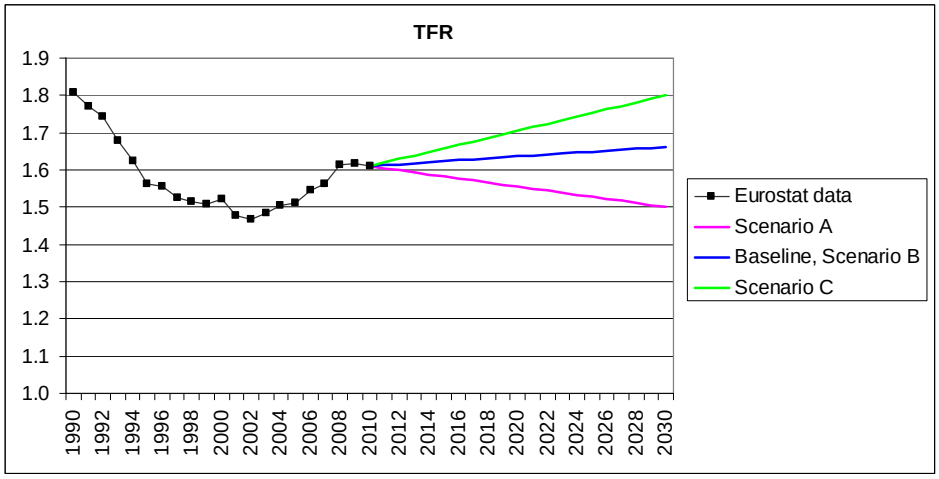
- Scenario A („Megas") promotes European metropolitan areas; growth will be driven by dynamic large cities (mostly the capitals). GDP will be growing slightly faster than in the Baseline. Welfare system will be fully privatised, lacking of adequate policies supporting families and women. Openness to migrants from outside Europe will result in increased international mobility within Europe.
- Scenario B („Cities") promotes second rank cities (polycentricity at national level). It was assumed that the GDP will be growing faster than in the Baseline. Fertility will be as in the Baseline. We expect moderate immigration from outside Europe and a slight increase of international mobility within Europe.
- Scenario C („Regions") promotes peripheral and rural areas. GDP will be growing slower than in the Baseline. Pro-family policies will be implemented on a national level. Strict immigration policies will be enforced. A decrease of international mobility within Europe will be observed.

Taking into account these general assumptions, detailed assumptions on components of demographic change were made. They were as follows:

Fertility assumptions

In Scenario A („Megas") a decrease of TFR to 1.5 in 2030 was assumed because the competition on the labour market and the lack of adequate social policies are not compatible with childbearing. In Scenario B („Cities") the assumptions were as in the Baseline scenario (TFR equal 1.66 in 2030). It was deemed that better economic condition and reinforced welfare system will not be enough to trigger TFR increase, because of the competition between family-related and other values. Scenario C („Regions") was the most optimistic, with TFR increase stronger than in the Baseline, to 1.8 in 2030. Fertility rates will increase in all the regions thanks to national level social policies supporting families and women

Figure 7 Total fertility rates 1990-2030, Eurostat data, Baseline scenario and exploratory scenarios



Mortality assumptions

In all exploratory scenarios an increase of life expectancy and decrease of mortality rates was assumed the same as in the baseline scenario.

Migration assumptions
Assumptions vary regionally and are governed by a general principle of larger immigration flows to the regions promoted in a given scenario. Scenario A („Megas") assumes an increased share of flows to regions with European metropolitan cities (rank 1 regions). Scenario B („Cities") assumes an increased share of flows to 2nd rank regions. Scenario C („Regions") assumes a decrease of outflows from peripheral and rural regions (rank 3 regions).

Extra-Europe migration
Scenario A („Megas") assumes immigration increases faster than in the Baseline scenario. Scenario B („Cities") adopts the rate of increase higher than Baseline but lower than in „Megas"). Scenario C („Regions") assumes immigration lower than in the Baseline (decrease by 2 per cent every 5 years).

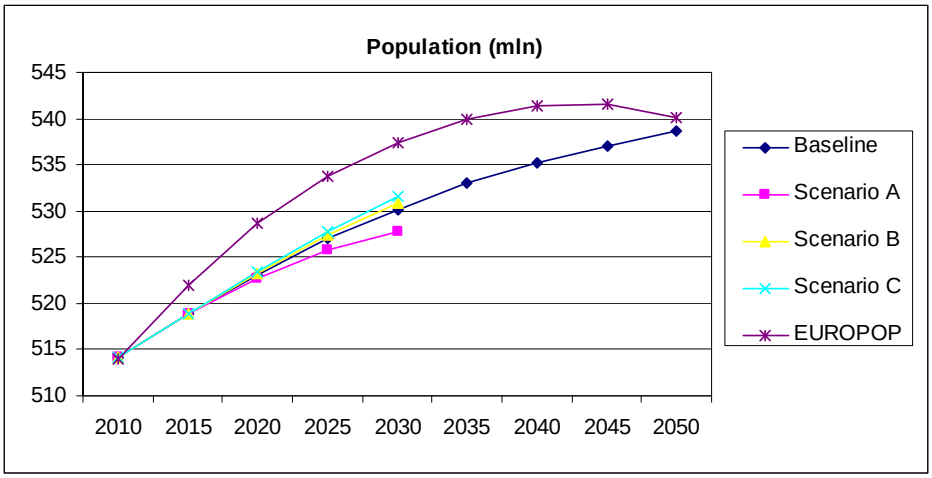
International migration within Europe
Scenario A („Megas") assumes increased emigration rates from rank 2 and 3 regions. Scenario B („Cities") assumes increased emigration rates from rank 3 (peripheral and rural) regions. In Scenario C („Regions") decreased emigration rates from rank 3 (peripheral and rural) regions are assumed.

Internal migration
Scenario A („Megas") assumes an increase of the rate of out-migration to European metropolitan areas from rank 2 and rank 3 regions. In Scenario B („Cities") an increase of the rate of out-migration to 2nd rank regions from rank 1 and rank 3 regions is assumed combined with a decrease of outmigration from 2nd rank regions to rank 1 and rank 3 regions. In Scenario C („Regions") a decrease of out-migration from the peripheral and rural areas and an increase of the rate of out-migration to the peripheral and rural areas are assumed.

5. Exploratory scenarios – the results

Population obtained in each of the exploratory scenarios and in the Baseline scenario (in mln) are presented on Figure 8.

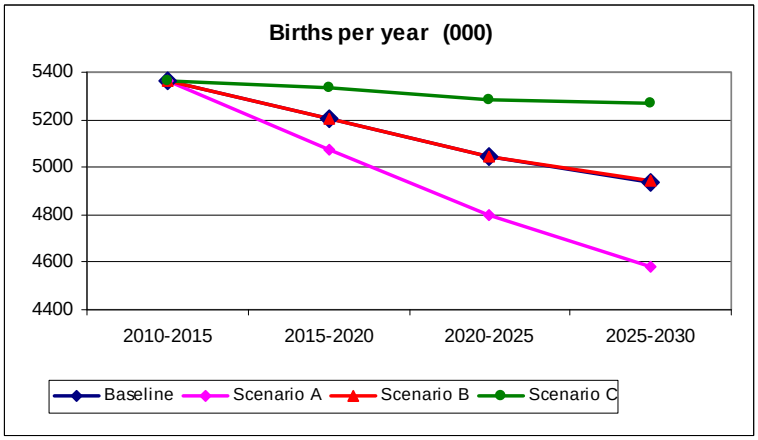
Figure 8 Population in exploratory scenarios, the Baseline scenario and in EUROPOP 2010



In Scenario A („Megas") population is lower than in the Baseline, despite increased immigration, because of lower fertility. In Scenario B („Cities") population is slightly higher than in the Baseline thanks to higher immigration. In Scenario C („Regions") we observe, despite decreased immigration, the largest increase of population, which is generated by higher fertility.

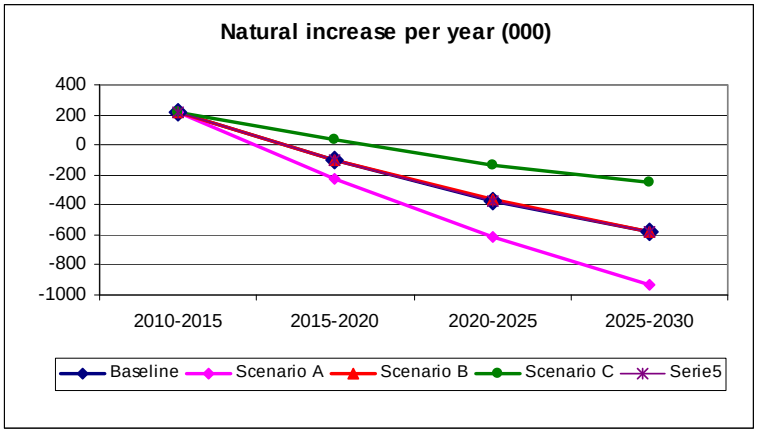
A decrease in the number of births in the ESPON area is predicted in all three exploratory scenarios (Figure 9). In Scenario C, a small decrease will be observed despite the assumption on pro-family and pro-natalist policies and increasing fertility. This is related to population aging and the related decrease in the number of women in the fertile age. Scenario A, which is based on the assumption of highly competitive economy with a limited social security component would result in nearly 800 thousand drop in the number of births per year between 2010 and 2030.

Figure 9 Annual number of births in the three exploratory scenarios and in the Baseline



The decreasing number of births, combined with an increasing number of deaths would result in decreasing natural change (Figure 10). Natural change would be negative (more deaths than births) starting from the 2015-2020 period in Scenarios A and B and starting from the 2020-2025 period in Scenario C.

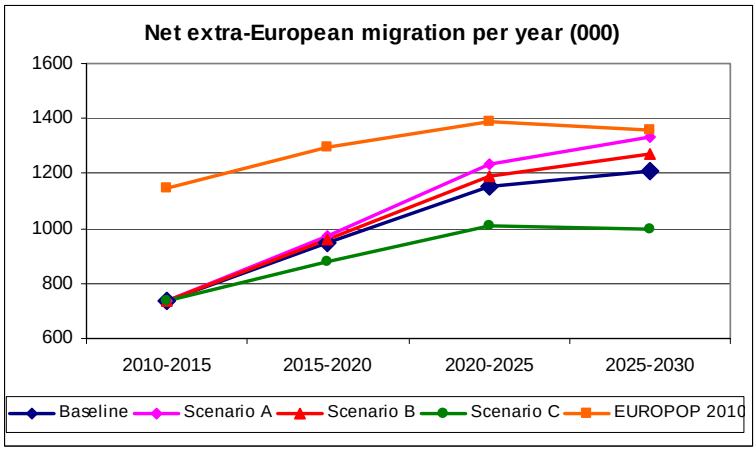
Figure 10 Annual natural increase in the three exploratory scenarios and in the Baseline



With a negative natural change, the growing extra-European migration (Figure 11) will constitute a key balancing factor of population dynamics.

In the exploratory scenarios the assumption on low fertility was accompanied by the assumption on high net migration gains (Scenario A), and the assumption on higher fertility was coupled with the one on low net migration (Scenario C). As a consequence, the resulting total population did not differ very much between the scenarios, but this lack of a difference is somewhat illusive. In Scenario A characterized by high net migration, the national, cultural and ethnic composition of population will be much more heterogeneous than in Scenario C characterized by low net migration.

Figure 11 Annual net extra-Europe migration in the three exploratory scenarios, in the Baseline and in EUROPOP 2010.



Regional population

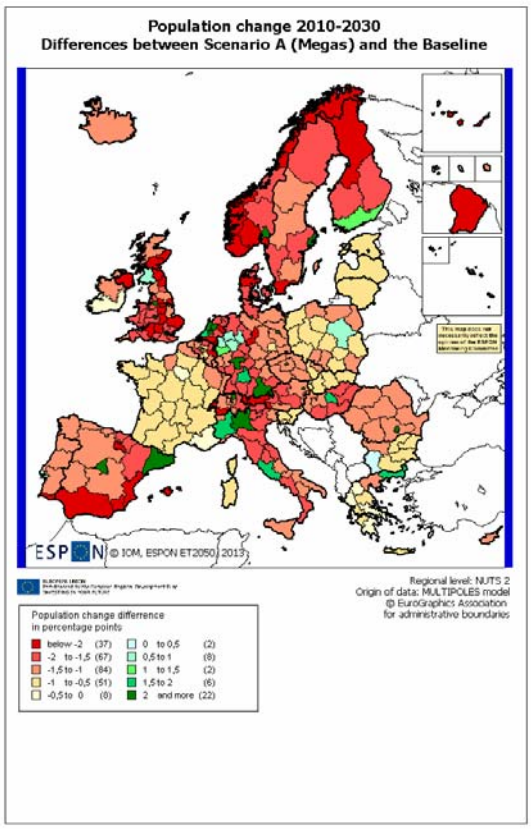
In most of the regions, population in Scenario A („Megas") will be lower than in the Baseline scenario, as depicted in Map 4. The exception are European metropolitan areas. They will have population higher than in the Baseline thanks to an increased inflow of migrants that will counterbalance the declining fertility. Scenario A leads to the concentration of population in the largest cities. In Scenario B („Cities"), as expected, the 2nd rank cities have population slightly larger than in the Baseline scenario thanks to increased inflows. In Scenario C („Regions"), most of the regions will have higher population than in the Baseline thanks to growing fertility. Rural and peripheral areas will benefit additionally from reduced emigration. At the same time, some large cities will have lower population than in the Baseline, because of smaller

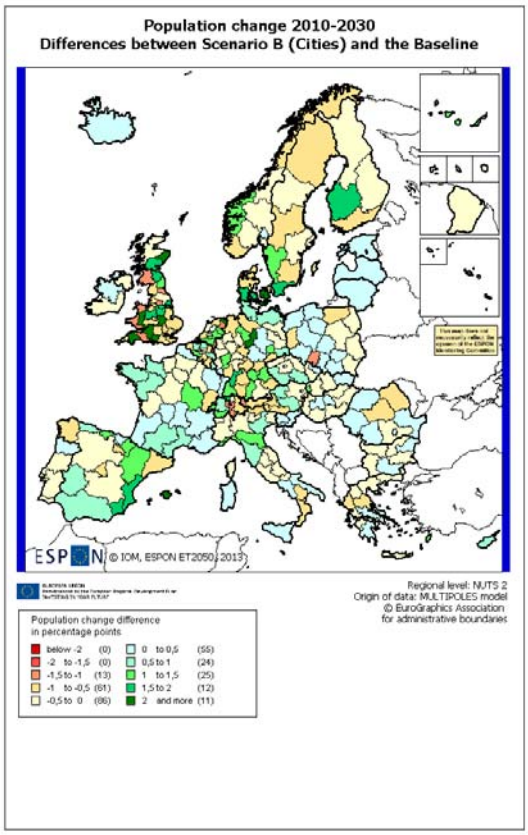
inflows. Overall, Scenario C will lead to a more balanced distribution of population between various categories of regions.

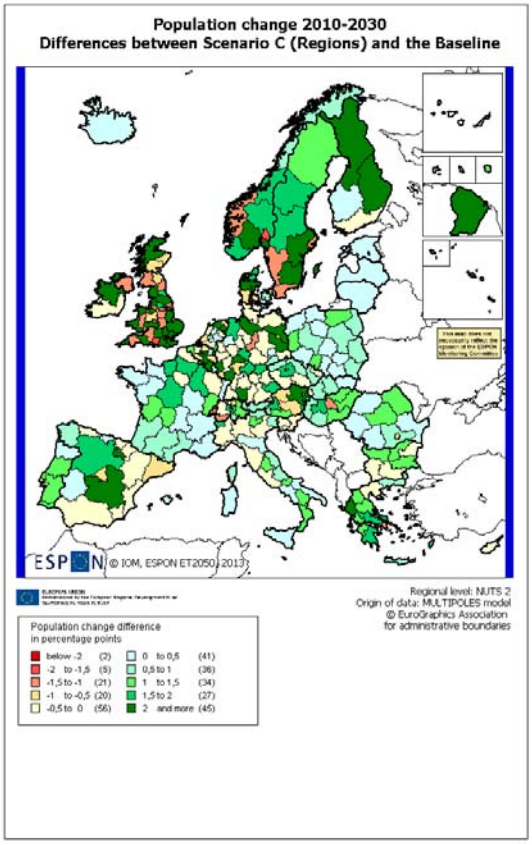
Population aging

The differences in the speed of ageing (expressed as the percentage change of ODR in the 2010-2030 period) between the exploratory scenarios and the Baseline generally follow the migration pattern assumed in the exploratory scenarios (Map 5). In each scenario the promoted regions gain young migrants faster than the other regions, therefore the ageing in these regions is slower. The strongest reduction of the speed of aging in the promoted regions is observed in Scenario A, which is related to the highest immigration in this scenario. In Scenario C, the reduction of aging in the peripheral and rural areas is related to a large extent to a reduced emigration of working age population. The result of substantially higher fertility assumed in Scenario C is hardly visible, as in 2030 too little time will have passed for most of children born between 2010 and 2030 to join the labour force.

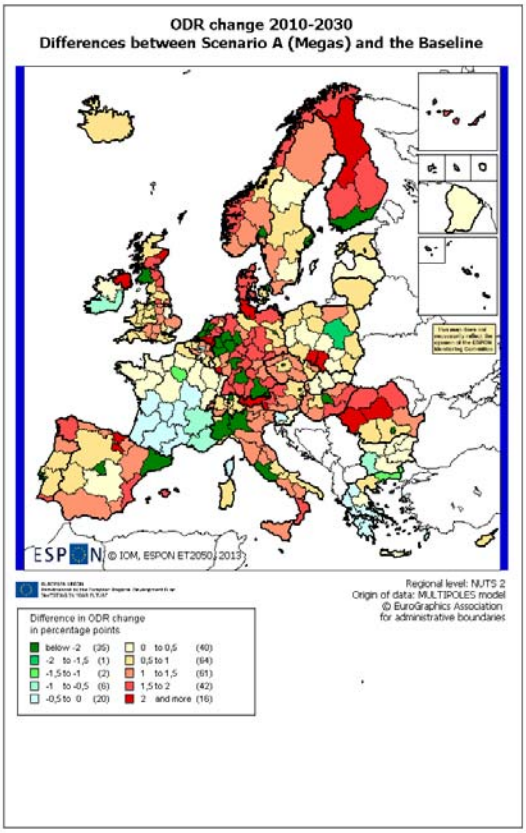
Map 4 Population change 2010-2030: Difference between the exploratory scenarios and the Baseline.

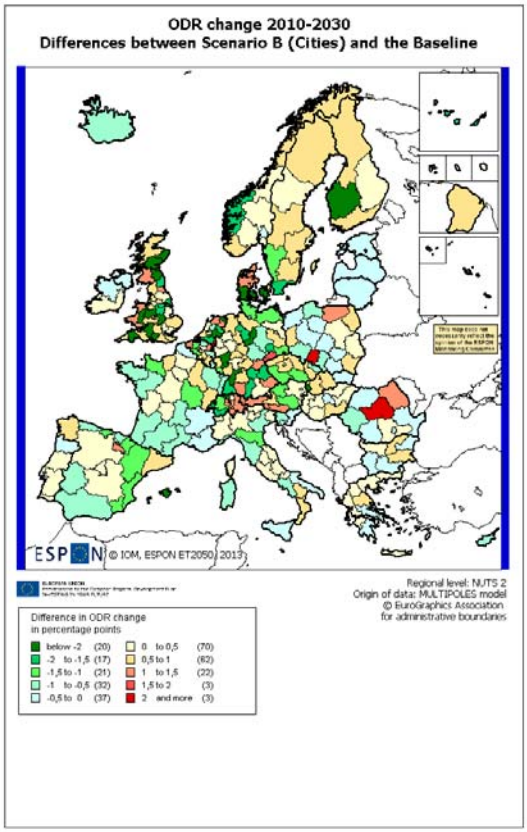


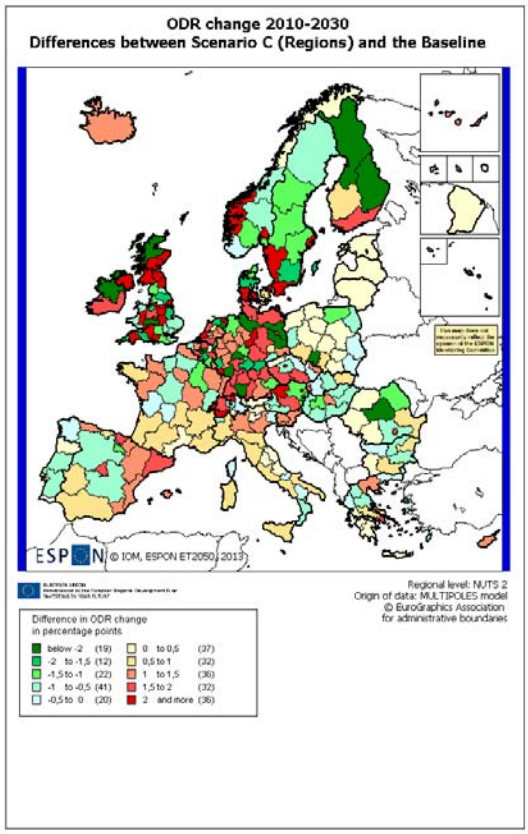




Map 5 ODR change 2010-2030: Difference between the exploratory scenarios and the Baseline






ODR change 2010-2030
Differences between Scenario C (Regions) and the Baseline
ESPON
© ESPON, ESPON ET2050, 2013
Regional level: NUTS 2
Origin of data: MULTIPOLES model
© EuroGraphics Association
for administrative boundaries
Difference in ODR change
in percentage points
below -2 (19)
-2 to -1,5 (12)
-1,5 to -1 (22)
-1 to -0,5 (41)
-0,5 to 0 (20)
0 to 0,5 (37)
0,5 to 1 (32)
1 to 1,5 (36)
1,5 to 2 (32)
2 and more (36)

ET2050 Interim Report 2

ANNEX II - Economic scenarios. Assumptions and results

Author: Politecnico di Milano

April 30th 2013

ESPON ET2050

Politecnico di Milano Research Unit

MASST3 model results for the Baseline and the three exploratory scenarios

Politecnico di Milano
Department ABC (ex BEST)
Piazza Leonardo da Vinci, 32
20133 Milan (MI)
Italy

Roberta Capello
Roberto Camagni
Andrea Caragliu
Ugo Fratesi

Milan, 26 March 2013

Table of contents

1. Introduction

This report contains the final results of the quantitative scenarios obtained by running the MASST3 model with the assumptions of the Baseline scenario and of the three exploratory scenarios presented in the first interim report (pp. 201-202). The purpose of the MASST3 model is in fact to create territorial scenarios under different assumptions about the main socio-economic driving forces of change that will act in the future.

A word of attention is needed to interpret the results in the right way. The model is not created (and therefore not able) to produce economic forecasts; the quantitative results of the model are therefore not precise values of specific economic variables in the future, on the basis of extrapolations of a system of past socio-economic relations, but depict the ***tendencies and relative behavioural paths*** of regional GDP growth (and regional employment growth) in each individual region under certain conditions, i.e. probable states of the system that may become real under certain conditions that are exogenously assumed. In a scenario-building of this kind, the existence of the MASST model guarantees that the results are neutral vis-à-vis the assumptions, since they are based on the structural relationships that hold together the economic system in an objective way (estimates). Used with such a purpose, it is not a short-term forecasting tool, but a long-term quantitative foresight model.

The MASST3 results for the four scenarios are calculated for the ESPON space (31 countries)[1] as an aggregate and at NUTS2 level; ***for the period 2011 – 2030*** MASST3 produces:

- the annual average GDP growth rates;
- the annual average total employment growth rates;
- the annual average industrial employment growth rates;
- the annual average service employment growth rates.

[1] The MASST3 model produces results for the 27 EU Member Countries. The four EFTA countries (Switzerland, Liechtenstein, Norway and Iceland) have been introduced in the quantitative foresights on the basis of a simplified, extrapolative / comparative sub-model. Complete results, integrating the MASST3 outcome with extensions to the four countries sub-model outcome, are provided in this report.

2. Aggregate results of the Baseline scenario

Table 1 presents the aggregate results of the average annual growth rates between 2011 and 2030 of GDP, total employment, industrial and service employment, and population, for the 31 ESPON countries as a whole. The same results are presented for two groups of countries:

- the old (EU15), plus the four ESPON countries that do not belong to the EU, namely Switzerland, Norway, Liechtenstein (from now on mentioned as western countries);
- the new member states countries, those that joined the EU in recent times (from now on mentioned as New 12 countries).

Table 1. Aggregate annual average growth rates between 2011 and 2030
Baseline scenario

	GDP	Total employment	Manufacturing employment	Service employment
31 ESPON countries	1.89	1.58	1.38	1.63
Western countries*	1.88	1.53	1.48	1.54
New 12	1.93	1.90	0.98	2.33

** Old 15 member countries plus Switzerland, Iceland, Norway and Liechtenstein*

The aggregate results already depict interesting messages:

- the *baseline scenario registers an average GDP growth rate of 1.89%*, which is slightly lower than the long run trend for Europe, because of the slow coming out of the crisis;
- *the New 12 countries register a slightly higher annual average GDP growth with respect to the western countries* (1.93%,), but the moderate increase signals that convergence rate toward western countries will decrease;
- *employment grows at a sustained rate in Europe, meaning that large part of the recovery from the crisis comes from job creation*. Part of the recovery, however, also comes from productivity gains, as signalled by the larger increase of GDP with respect to employment;
- *productivity gains are particularly present in western countries with respect to the New12 countries, where GDP growth mostly takes place through employment creation*. Despite the negative population growth rates in this part of Europe, labour force is made available from employees leaving the agricultural sector (if Eastern countries' contribution of agriculture to total GDP decreased from 11% in the 1990 to 6% in the 2008, it is still higher than western countries' one, which is around 2.4% in 2008) and from unemployed people returning to work;
- *productivity gains are limited in New 12 countries* mainly for two main reasons: i) the traditional reconversion from agriculture to manufacturing activities that

has characterised these countries since the fall of the Iron curtain is now more contained (the share of agriculture reached 6% of total GDP, and therefore the more contained shifts to industrial activities generate more limited productivity gains than before); ii) New 12 countries are characterised by a shift of employment from manufacturing to services, evidencing a clear new stage of development from industry to services; however, this industrial reconversion does not bring with it gains in productivity, being the new services low-value added services, like commerce;

- *a more contained positive trend in employment growth accompanies growth in western countries*. In these countries, contrary to the New 12, an increase in productivity is evident, showing a higher GDP growth rate than the one in employment;
- *an equilibrated increase of both manufacturing and service activities characterises western countries*. This suggests that a process of reindustrialization will take place in these countries, a process that can find explanations in lower salaries as a result of the long crisis the crisis, and a slowing down in off-shoring processes, especially towards Eastern countries, the latter will more and more suffer from the constant erosion of their relative advantage in low labour cost;
- *in western countries manufacturing increases mostly in traditional manufacturing industries, re-launching entrepreneurship of high quality*, as the productivity gains suggest.

3. Regional results of the Baseline scenario

All the results described above are spatially differentiated at Nuts2-2010 level, and reported in Maps 1 and 2. Map 1 depicts the annual average regional GDP growth rate in the baseline scenario, showing that:

- *GDP growth is positive in all European regions*, with the exception of a very limited number regions in southern Europe, where the recovery after the crisis is not able to overcome the negative effects of the crisis in the first years of the period 2011-2030. These regions are the rural areas of Greece and Castilla-La-Mancha in Spain;
- in terms of GDP growth rate, there is a *two speed Europe*, since regions belonging to southern peripheral countries grow in general significantly less than northern countries. Southern European countries discount the difficult present conditions on their future evolutionary trajectories and their post-crisis growth is insufficient to recover with respect to other countries where the crisis is felt mildly;
- the *convergence process by New12 countries is incomplete* – since these countries are only slightly outperforming the Western ones – and is uneven, since also within the New12 countries GDP growth rates are differentiated. Eastern European countries still grow more than the others, but this is not enough to catch up with the GDP per capita levels of the Western countries by 2030;
- *intra-national regional disparities increase* in all countries, in New 12 and in Western ones. The regions with the capitals, the regions with the largest cities, and the more central regions at national level generally outperform the regions which are more rural and peripheral at national level. This is especially evident in Bulgaria and Romania, where Sofia, Bucharest and, to a lower extent, Timisoara are winners at the national level; France, where the highest rates are in Paris, Lyon, Toulouse and Bordeaux; Italy, where the differential between the richer North and the poorer Mezzogiorno increases; Greece, where the three regions with positive growth rates are Attiki, Thessalia and Kentriki Makedonia.

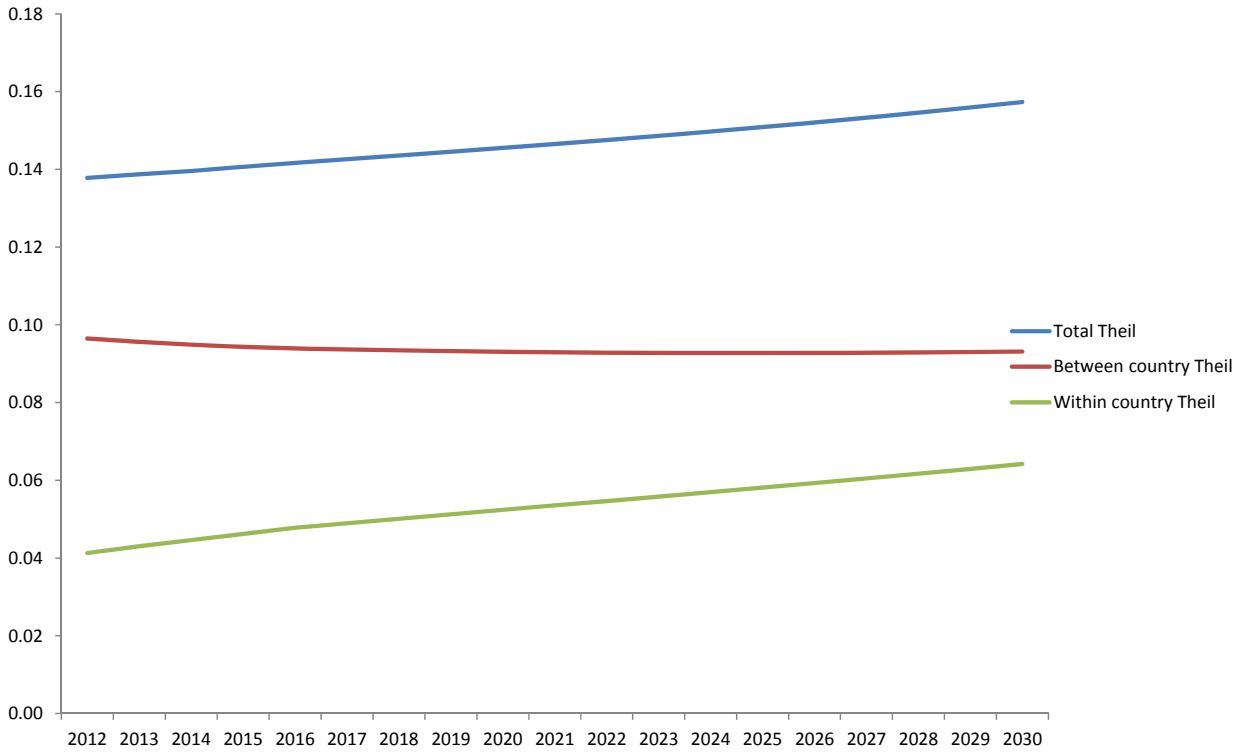
[See Map 1]

As a result of these trends, total disparities increase, as the effect of very small decrease of disparities between countries and a significant increase of disparities within countries, although the former remain bigger than the latter in absolute terms (Fig. 1).

Maps 2a, 2b and 2c depict the annual average regional employment growth rates in the baseline scenario, distinguishing between total employment, manufacturing employment and service employment. Total employment growth map (Map 2a) evidences the following trends:

[See Maps 2]

Fig. 1. Theil index for the Baseline scenario



- *employment growth is substantially positive* in all Europe, with just two exceptions in Övre Norrland and the Baleares, confirming the general result which interprets employment creation as the major channel for exiting the crisis;
- *employment creation is especially strong in New 12 countries*, with the exception of the rural areas of Bulgaria. Regions in these countries grow thanks to the creation of new jobs, because, having already almost completed the restructuring of their manufacturing systems, they will tend to create jobs, especially in the service sector, including jobs in low value added services to people;
- also *in the regions of Southern Europe there is positive employment growth*, although lower than in the rest of Europe. This contributes to reducing the unemployment generated by the crisis, and, being accompanied by weak productivity growth, it rarely takes the form of high employment. Prolonging the present trend, salary flexibility substitutes exchange rate flexibility;
- *within the countries of western Europe, employment grows most in second rank city areas*, and generally grows little in core areas with the highest GDP growth. In the latter, in fact, growth is driven by productivity, while in non-core areas lower level employment can be the result to ease the problems of unemployment generated by the crisis;

- *within the New 12 countries, core and capital regions have higher employment growth rates* in addition to higher GDP growth, but the *growth of employment is less concentrated* with respect to the one of GDP, meaning that productivity growth is higher in the core regions.

Additional insights on the Baseline scenario are obtained by looking at the results on manufacturing and service growth rates presented in Map 2b and 2c, namely:

- *manufacturing employment growth is positive in most regions of Europe*, due to the re-industrialization of most countries and the in-shoring of manufacturing activities;
- manufacturing employment growth is higher in Western countries than in New 12 countries, where the benefits of attractiveness in manufacturing mostly have already been exploited in the past and the growth shifts towards services in the scenario;
- *in western countries, many core areas are able to create manufacturing employment*, including Paris, London, Frankfurt, Munich, Brussels, Helsinki. However, this pattern has some exceptions, such as Lisbon, Wien and Berlin;
- *in New 12 countries, manufacturing growth is especially weak in core and capital regions*, which grow through a reconversion to services of their economy, while it remains positive and significant in lower order regions, which can still exploit their lower labour costs;
- *service employment growth is high in almost all regions of Europe*, and especially high in the regions of New 12 countries, which shift towards services after having attracted manufacturing activities before the years of crisis;
- southern European countries, especially Spain and Greece, are among those less able to create service employment. For Greece especially, this signals the limited re-launch in its sector of specialization, tourism, a trend that contributes to explain their weak performance in terms of GDP;
- particularly *high is service employment growth in the core and capital regions of New 12* countries, since these areas are upgrading their service sector, while the rest of their countries creates service jobs with lower value added;
- in Western countries, service employment growth is high in second rank regions and cities, which are able to attract low value added services, and lower in most core regions, which externalize the same low value added services.

4. Aggregate results of the three exploratory scenarios

In this part of the report we present the results for the three exploratory scenarios, namely the "Megas/Flows", the "Cities" and the "Regions" scenarios. In Box 1 we briefly sketch the assumptions on which they are based.[2]

Box 1. Sketch of assumptions for the three exploratory scenarios

"Megas/Flows" scenario
Market driven scenario; welfare system fully privatized; financial debt repaid in 2030; budget reduced for cohesion policies; concentration of investments in European large cities.

"Cities" scenario
Public policies mostly at national level; actual welfare system reinforced through increased taxation; financial debt not fully repaid in 2050; budget maintained for cohesion policies; concentration of investments in second rank cities.

"Regions" scenario
Social policies; strong public welfare system; financial debt repaid in 2050; budget significantly increased for cohesion policies; concentration of investments in rural and cohesion areas.

As developed for the Baseline scenario, aggregate results for the ESPON space and for the western and New12 countries are presented before moving to the regional results. Table 2 presents the annual average GDP growth rate, both in absolute terms and with respect to the baseline, of the three exploratory scenarios, while Table 3 presents the annual average growth rates with respect to the baseline of the three scenarios for what concerns total employment, and its subdivision between manufacturing and service.

Table 2. Annual average GDP growth rates – 2011-2030

Aggregates	Baseline	Megas	Cities	Regions	Megas vs. baseline	Cities vs. Baseline	Regions vs. Baseline
Espon 31 countries	1.89	2.22	2.31	1.82	0.33	0.42	-0.06
Western countries	1.88	2.22	2.31	1.81	0.34	0.43	-0.07
New 12 countries	1.93	2.22	2.23	1.98	0.30	0.30	0.05

The "Cities" scenario is the most expansionary scenario in terms of GDP, followed by the "Megas" scenario and then by the "Regions" scenario, and this holds particularly for western countries, although also the New 12 countries show a strong similarity between the "Megas" and the "Cities" scenarios. The higher expansion of growth in the "Cities" scenario can be explained by the higher and more efficient exploitation in this scenario

[2] For an in-depth description of the three exploratory scenario assumptions, see the first annex to the interim report (October 2012), entitled "Structuring of Exploratory Scenarios, Territorialisation and Use of Wild Cards", pp. 201-202.

of territorial capital elements, of local specificities, present in both large and second rank cities that allows local economies to achieve higher competitiveness. Development based also on second rank cities implies the existence of an integrated and equilibrated urban system, made of efficient second rank cities working with first rank cities in providing quality services and allowing the latter to avoid strong diseconomies of scale that can be of detriment to growth. The weak presence of equilibrated and efficient urban systems in the Eastern countries may explain why these nations register very similar growth rates between the "Megas" and the "Cities" scenarios, being both the result of growth based on efficient first rank cities. With respect to the baseline, New12 countries gain the same from a "Megas" and a "Cities" scenario, while the western countries have a clear higher advantage from the "Cities" scenario than from a "Megas" scenarios when compared to the Baseline.

The "Regions" scenario tells a different story: ESPON space countries as a whole gain less from this scenario than from the Baseline scenario. When the average growth rate is divided between western and New 12 countries, the advantage that the latter countries achieve with respect to the baseline emerges, confirming that when cohesion policies are reinforced, their effect is visible. However, the "Regions" scenario is not the one from which the New 12 countries gain the most compared to the Baseline; both the "Megas" and the "Cities" scenarios register higher growth rates than the "Regions" also for the New 12 countries. This result underlines the importance of a "competitiveness" driven attitude, and at the same time reminds the relatively lower effect of cohesion policies when they are not accompanied by an endogenous effort in moving towards competitiveness. The two combined aspects, cohesion policies from one side, and local competitiveness from the other, can probably be the best recipe for growth.

When trends in employment are analysed with respect to the Baseline (Table 3), other interesting messages emerge, namely:

- the "Megas" scenario registers a higher manufacturing than service employment growth rate, and this is particularly true for western countries;
- in the "Cities" scenario, service employment is more expansionary than manufacturing, and this is particularly true for the New 12;
- the "Regions" scenario is characterised by a higher manufacturing employment growth rate than the other two scenarios in the New 12 countries, while western countries register a higher service employment growth rate than the manufacturing one.

These results suggest that each scenario is accompanied by a relative increase of a specific industrial profile in each block of countries. The most competitive scenario, namely the "Megas" scenario, is in favour of a reindustrialization process all over, and especially in the western countries, being a scenario based on a re-launch of new technological paradigms, higher rhythm of innovation, higher productivity linked to an increased share of high-level functions. The "Cities" scenario registers a higher expansion of service employment with respect to the baseline; being a more spatially diffused scenario, both population and business services are required all over Europe. In the "Regions" scenario, the trends in the sectoral profile are different between western and Eastern countries; the high social welfare requirements call for additional population services in western and eastern countries, but the latter benefit from additional cohesion funds for the re-launch of industrial activities.

Table 3. Annual average growth rate (2011-2030) with respect to the baseline of GDP, total employment, manufacturing and service employment

Aggregates	GDP	Total employment	Manufacturing employment	Service employment
		"Megas" scenario		
Espon 31 countries	0.33	0.34	0.74	0.23
Western countries	0.34	0.35	0.82	0.24
New 12 countries	0.29	0.25	0.41	0.19
		"Cities" scenario		
Espon 31 countries	0.42	0.38	0.28	0.41
Western countries	0.43	0.38	0.31	0.40
New 12 countries	0.30	0.37	0.12	0.46
		"Regions" scenario		
Espon 31 countries	-0.06	-0.03	-0.30	0.04
Western countries	-0.07	-0.03	-0.40	0.04
New 12 countries	0.05	0.00	0.09	0.05

5. Regional results of the "Megas" scenario

The Megas scenario is more expansionary with respect to the baseline, with a GDP growth rate which is 0.33% higher. This differential growth is higher for the Western countries (+0.34%) with respect to the New 12 countries (+0.29%).

The difference in employment growth is similar to the one of GDP in the two groups of countries, meaning that, on aggregate, this scenario has the same productivity growth than in the baseline, but is able to create more employment.

The difference in employment creation is higher in manufacturing (+0.74%) with respect to services (+0.23%), and this effect is stronger for the Western countries with respect to the New 12 countries. Market oriented policies are hence able to produce results more for the countries which currently hold higher functions at European level.

At regional level, the average annual GDP growth rate is differentiated and presented in Map 3. The map evidences that:

- *GDP growth is higher with respect to the baseline scenario in all countries of Europe, but not necessarily in all regions*. In fact, there are some peripheral areas of western countries, such as North Eastern Scotland, Murcia, Drente, Groningen, Schleswig-Holstein, Mecklenburg-Vorpommern, Brandenburg and Trento, where GDP growth is lower than in the baseline due to the fact that these regions are just crossed by the major corridors without being nodes;
- at national level, *some countries appear to gain more than the others*. In particular, gain is lower in Nordic countries (Sweden, Finland and Denmark), while, unexpectedly, southern countries, including Portugal, Spain and especially Greece are not particularly damaged by a competitiveness scenario like the "Megas". These countries appear to take advantage of a re-launch of the European economy, increasing their demand for exports, able to overcome the still weak internal market;
- as expected by a scenario of policy concentration, within western countries *the highest gains in GDP growth rate are experienced in the most important urban poles*, including London, Manchester, Paris, Lyon, Madrid, Lisbon, Porto;
- however, the gain in GDP growth is also high, and in some cases even higher, in some urban second rank areas, such Karlsruhe, Rheinhessen-Pfalz, Hampshire, Berkshire, Buckinghamshire and Oxfordshire, Campania, Piedmont. This means that *the Megas scenario favours the drivers, but not only;* thanks to growth spillovers, input-output linkages, increased demand, *development spreads to the rest of the regions*;
- *in New 12 member countries* the gain in GDP growth rate is more evenly distributed than in western countries, and *core and capital regions are indeed winners but not more than their respective countries*. This is due to the fact that growth in these countries has been concentric in the past and continues to be concentric in the Baseline scenario, so that an increase of demand and production as the one of the Megas scenario cannot be confined within the core areas but needs to be spread elsewhere.

[See Map 3]

Maps 4a, 4b and 4c depict the differential of annual average regional employment growth rates between the Megas and the Baseline scenario, distinguishing between total employment, manufacturing employment and service employment.

[See Maps 4]

Map 4a presents the difference in total employment growth and evidences some interesting trends:

- *the differential of employment growth is larger in western with respect to New 12 countries*. The latter do not have the same high differential GDP in the first instance, but also appear to have more productivity gains;
- as with GDP, Nordic countries are relatively lesser winners, and southern countries are among the major winners, thanks to increased external demand;
- at regional level, *the gains of employment growth in western countries are diffused*, and all regions are positive, but the regions with the largest increases are generally regions hosting large urban areas, although not necessarily the largest of their countries, such as Lyon, Toulouse, Lille, Munich, Stuttgart, Hannover, Helsinki, Barcelona and Porto;
- *in New 12 countries, the gains of employment growth are even more diffused* than in the western countries, and regional differentials are weak, with core and capital regions performing similarly to the rest of the country. This confirms the spread effect of GDP growth.

Maps 4b and 4c are able to separate the differences of employment growth (between the Megas and the Baseline scenario) in manufacturing and service employment, highlighting some interesting trends:

- *manufacturing employment growth is highly concentrated, especially at regional level, in the regions with the most important areas of their respective countries.* Dublin, London, Birmingham, Manchester, Liverpool, Glasgow, Paris, Lille, Lyon, Toulouse and Bordeaux, Amsterdam, Rotterdam, Munich, Stuttgart, Köln, Copenhagen, Stockholm, Helsinki, Wien, Milan, Turin, Rome, Naples, Athens, Madrid, Barcelona, Lisbon are all the best performers of their respective countries. This is due to the fact that manufacturing is more advanced in this scenario with respect to the past and to the Baseline scenario, it involves a larger use of innovation and hence involves an increased share of high-level functions;
- the same pattern also applies *in New 12 countries*, where *manufacturing employment growth is concentrating in core and capital regions*, as evident in Prague, Bratislava, Budapest, Bucharest, Sofia, Warsaw, Lodz, Cracow;
- *rural and peripheral regions have a lower manufacturing employment growth*, as it concentrates elsewhere. This is true in the sparsely populated regions or Nordic countries, in Eastern Germany (with the obvious exception of Berlin), Highlands and Icelands, Cornwall, Namur, Tyrol, Centro, Extremadura, the Italian Mezzogiorno, Dytiki Ellada;
- the gains of service employment growth are very different from those of manufacture. First of all, this indicator is less spatially concentrated, with gains more evenly spread and losses which are in a smaller number of regions;

- *a number of the metropolitan regions which gain high-level manufacturing-related functions, also expel low-level services*, and have in this way a negative differential of service employment growth. This is the case of Milan, Turing, Barcelona, Seville, Dublin, Stuttgart, Dortmund, Helsinki;
- however, *other metropolitan areas are able to also maintain their service employment*, although with lower differential growth rates if compared with the rest of the country. This happens in Madrid, Rome, Athens, Paris, London, Stockholm, Copenhagen, and all the capitals of New 12 countries;
- *service employment growth is high in third order regions, not necessarily peripheral, belonging to Western countries*: Central and Eastern France, all non-metropolitan Britain, Småland, Vali-Suomi, Centro (PT) and Alentejo. These regions appear to be hosting the low level services which are ejected from metropolitan and capital regions;
- *service employment growth is especially strong in Greece*, where the increased demand makes it possible an upsurge of tourism, fulfilling its potential in this sector. This is also one main reason behind the higher GDP growth with respect to the Baseline scenario;
- finally, *a small number of areas show a good balance between service and manufacturing employment growth rates, with positive gains in both*. This happens for example in the case of Auvergne, the English South-East, Freiburg and Tubingen.

6. Regional results of the "Cities" scenario

The Cities scenario is by far the most expansionary of the exploratory scenarios. At the aggregate ESON space level, regional GDP is expected to achieve sustained growth (the average annual GDP growth rate equals 2.31 per cent between 2012 and 2030), with a remarkable diffusion of the growth process, although a non negligible growth advantage characterizes western countries (the growth rate being higher by 0.08 in western countries).

This Scenario suggests a particularly remarkable performance for Southern European countries, namely Spain, Italy, Greece, and France. Altogether, these countries outperform core areas such as regions in Belgium, the Netherlands, and Austria, which benefit less from the realization of the Cities scenario with respect to the Baseline one.

Map 5 presents the spatial distribution of regional GDP growth rates. From this map and the analysis of the quantitative results of the foresight exercise, a few major conclusions can be inferred:

[See Map 5]

- the spatial distribution of regional GDP growth rates suggests a *rather original model of development, centered around districts, cooperation networks, and Small-Medium Enterprises (henceforth, SMEs).* In fact, development takes place mostly in medium-large cities, where the presence of SMEs, industrial districts, clusters is relatively larger;
- *regions in New 12 countries tend to benefit vastly* from the implementation of this scenario, whereas the positive effects are comparable to those stemming from the more competitive "Megas" scenario. However, in Western regions the spatial distribution of GDP growth rates seem to be even more equal, because of the wider presence of second-rank cities in the EU15 (and, conversely, of the relative lack of such cities in New 12);
- *large metropolitan areas generate non-negligible spillover effects*, with scale dis-economies explaining the increasing intensity of economic activity in second-rank cities. As the latter tend to outperform the former, however, scale dis-economies affecting first-rank cities tend to decrease over time.

The results of the Cities Scenario simulation also present interesting findings in terms of employment growth rates (Maps 5a-5c).

[See Maps 5]

- Similarly to what has been found for GDP growth rates, *employment growth seems to be pervasively diffused over the whole ESPON space*. Employment growth rates are comparable between the western countries and New 12; it turns out to be relatively less pronounced in Germany, Czech Republic, Austria, Netherlands, and Belgium;

- manufacturing employment has a particularly remarkable development in countries such as France, Spain, Italy, the English regions in the UK, and in Baltic countries. However, Scandinavian countries, Bulgaria and Romania, and Greece present a relatively weaker manufacturing employment growth rates with respect to the Baseline;
- the fact that this scenario is particularly expansive can also be proved by the relatively large number of regions where both manufacturing and service employment register positive medium-run (up to 2030) growth rates;
- in combination with the GDP growth rates map, employment maps suggest that *a few areas (namely, Southern Ireland with Dublin and Cork, and the metro areas of Stockholm and Malmö in Sweden) present remarkably high rates of productivity growth*, mainly because of an overall contraction of total employment, which is nevertheless matched by positive GDP growth;
- *this scenario tends to be manufacturing-driven*. Regions faring bad in manufacturing also tend to register mild GDP growth;
- analogously with what found for the "Megas" scenario, Greece benefits from an overall faster growth of European economies, doing particularly well in the service (and in particular, tourism) industry;
- finally, *areas registering negative manufacturing employment growth rates tend to substitute manufacturing employment with jobs in the service industry*; since overall productivity in this scenario tends, in the areas affected by this substitution process, to decrease, this suggests a process of substitution of jobs from relatively high productivity manufacturing activities to service ones with relatively low-function jobs.

7. Regional results of the "Regions" scenario

This scenario presents on average a relatively slower rate of GDP growth with respect to the Baseline scenario (Map 6). This is mostly driven by slower growth in western countries, whilst the convergence process (New 12 regions growing on average faster than their western counterparts) becomes even more pronounced, mostly because of the slowing down of growth in western regions. The difference between western and New 12 countries as a whole reaches about 0.2 percentage points per year, which implies about 15 per cent of the current GDP differences between these two areas would be eroded by 2030.

Several interesting patterns emerge in this scenario (Map 6):

- *among countries, more peripheral ones take particular advantage of the "Regions" scenario*; on average New 12 grow faster than western countries;
- *within countries, irrespective of the macro area where regions are located, rural and peripheral areas tend to benefit more from this scenario* (e.g., Northern Sweden and Finland, Southern Italy, rural Spain and France). This also implies that, within each country, rural areas perform relatively better with respect to the baseline scenario.

[See Map 6]

Analogously to what found for the "Cities" scenario, in the "Regions" scenario there seems to be a positive correlation between GDP growth and manufacturing employment growth (Map 7a). Map 7 presents in general the main employment trends in this scenario, which suggest interesting findings:

[See Maps 7]

- with the sole exception of Italy, *employment growth in this scenario takes place mostly in first-rank and second-rank metro areas*, both in New 12 as well as in western countries;
- as mentioned above, *Italy represents a major exception in this trend*; it seems like most peripheral areas in this country are not able to fully reap the benefits of cohesion policies, with a few notable exceptions faring way better than in the Baseline scenario (namely, Apulia, Campania, and the islands);
- *employment-wise, cohesion policies positively affect both rural and peripheral areas*, which are expected to benefit the most from this scenario; interestingly enough, also some strong regions benefit from job creation policies;
- *strong regions present nevertheless a very strong pattern*. They tend to register positive employment growth rates, matched, however, by a relatively mild GDP growth (typically, GDP growth is slower for strong regions with respect to the baseline scenario). This implies that overall productivity growth tends to slow down in metro areas, with a likely restructuring of the industrial composition of the labour market from high-level functions towards relatively low-level services. This goes the opposite way with respect to the "Megas" scenario;
- conversely, *rural and peripheral areas benefit from a buoyant GDP growth, even higher than the increase of manufacturing employment, which testifies for*

a remarkable productivity increase, at the roots of the continuing process of convergence which can be found in this scenario. This increase in productivity is either obtained by the creation of qualified small businesses and handcrafting activities, or by eliminating un-efficient industries, reconverting towards higher value-added sectors. Examples of this kind can be found throughout Europe, in Spain, Scandinavia, Greece, the Italian Adriatic coast regions, Eastern Polish regions, bordering Belarus and Ukraine;

- some rural areas and metropolitan areas of peripheral countries register an increase in service employment, not enough to compensate for the loss of manufacturing jobs, ending up with a lower total employment growth ate with respect to the Baseline. When this situation is accompanied by a higher decrease in GDP growth rate, *this implies a loss in productivity gains, probably due to the increase in low value-added service jobs*. This situation is found in some regions like areas in southern France, North of Portugal, regions around Warsaw.

ET2050 Interim Report 2

ANNEX III - Transport Policy

Author: MCRIT

April 30th 2013

Background to the Common Transport Policy

The *Common Transport Policy* (CTP) is an essential component of the EU policy since the Maastricht Treaty of 1992, when the concept of Trans-European transport Networks (TEN) was introduced for the first time, with a special emphasis on interconnection and interoperability of the diverse national networks. The main policy instruments of the CTP are the White Paper on Transport and the TEN-T programme. The *TEN-T programme* is intended to increase the co-ordination in the planning of infrastructure projects by the member states. Progress in the TEN-T implementation has been relatively slow due to the scale, complexity and cost of the proposed projects in the past. A new proposal of TEN-T guidelines was presented in October 2011, intended to focus the efforts of the program on key network elements of European relevance. The *White Paper on Transport* is the document of strategic reflection providing the conceptual framework for the CTP, having had substantial influence on EU, national and regional policies since 1992 (e.g. liberalisation of transport markets and modal change from road to rail). The 2009 EC Communication on the Future of Transport[1] triggered the debate for the 2011 White Book revision, proposing that focus should now turn on improving efficiency of the transport system through co-modality, technology development, and prioritise infrastructure investment on links with highest returns. The new transport White Paper[2] was presented in late March 2011.

According to the 2011 Transport White Paper, one of the major challenges in the field of transport is to break the system's dependence on oil without sacrificing its efficiency and compromising mobility, in line with the flagship initiative "Resource efficient Europe" set up in the EU2020 Strategy[3] and the new Energy Efficiency Plan 2011[4]. Curbing mobility is not an option. The EU and Governments need to provide clarity on the future policy frameworks (relying to the greatest extent possible on market based mechanisms) for manufacturers and industry so that they are able to plan investments.

The concept of co-modality introduced by the White Paper back in 2006 implies that greater numbers of travellers are carried jointly to their destination by the most efficient (combination of) modes. Individual transport is preferably used for the final miles of the journey and performed with clean vehicles. In the intermediate distances, new technologies are less mature and modal choices are fewer than in the city. However, this is where EU action can have the most immediate impact. Better modal choices will result from greater integration of the modal networks: airports, ports, railway, metro and bus stations, should increasingly be linked and transformed into multi-modal connection platforms for passengers.

There is an objective of full operativity by 2030 of the EU-wide multi-modal TEN-T 'core network' presented by the TEN-T guidelines in October 2011. The core network is aimed at ensuring efficient multi-modal links between the EU capitals and other main cities, ports, airports and key land border crossing, as well as other main economic centres. It is to be focused on the completion of missing links – mainly cross-border sections and bottlenecks/bypasses – on the upgrading of existing infrastructure. Better rail/airport connections would be devised for long distance travel. Among other targets, the White Paper establishes the objective of having trippled the length of the existing high-speed rail network by 2030, and maintaining a dense railway network in all Member States. By 2050, a European high-speed rail network should be completed. The goal of these targets is to allow by 2050 a majority of medium-distance passenger transport going by rail, and by 2050, all core network airports becoming connected to the rail network, preferably high-speed. The quality, accessibility and reliability of transport services is to be increasingly important, requiring attractive frequencies, comfort, easy access, reliability of services, and inter-modal integration.

Other key elements in relation to passenger transport are according to the transport White Paper the improving the energy efficiency performance of vehicles across all modes and using transport and infrastructure more efficiently through use of improved traffic management and information systems. The gradual phasing out of 'conventionally-fuelled' vehicles is a major

1 COM(2009)279
2 COM(2011)144
3 COM(2010)2020.
4 COM(2011)109.

contribution to significant reduction of oil dependence, greenhouse gas emissions and local air and noise pollution. The use of smaller, lighter and more specialised road passenger vehicles must be encouraged. By 2030, the use of 'conventionally-fuelled' cars in urban transport should be halved, and by almost eliminated in cities by 2050. Low-carbon sustainable fuels in aviation would have to reach 40% by 2050; at the same time it should be reduced EU CO2 emissions from maritime bunker fuels by 40% (if feasible 50%). Road pricing and the removal of distortions in taxation can also assist in encouraging the use of public transport and the gradual introduction of alternative propulsion.

According to the CTP Evaluation report[5] (EC 2009), substantial progress has been made in the last 20 years towards meeting the objectives of the CTP of creation of a competitive internal market for transport services, by liberalising the transport market. Market opening has been very successful in the air sector and there would be signs that market opening in the rail sector is starting to bring success (but it is too early to assess the full results of this as still some nations hamper the access to their national network). In all sectors, further reforms are required in order to fully implement liberalisation. Whilst there has been progress towards the objective of introducing a system of transport infrastructure pricing and taxation which better reflects marginal costs, and most of the specific measures proposed in the 2001 White Paper have been implemented, overall progress towards meeting this objective has been limited, largely because most decisions about pricing and taxation are still taken by Member States, and in some cases face strong public opposition.

In order to ensure that the limited TEN-T funds are used most efficiently to address infrastructure bottlenecks, decision-making about the allocation of funding should tend to be, according to the same source, increasingly based on cost benefit analysis of different schemes, using consistent criteria and parameters, not favouring specific modes of transport. The different environmental and other social costs of different modes should be taken into account in this cost benefit analysis. In fact, the EC provides unified criteria for project appraisals, as embodied in the regulations of the Structural Funds, the Cohesion Fund, and Instrument for Pre-Accession Assistance, through its Cost-Benefit guidelines[6]. However many methodological issues remain unsolved (e.g. appraisal of the so called intangible effects, both positive and negative) and even worse, the very paradigms of e.g. time savings in cost-benefit analysis are still being debated intensely.

But emphases on different type of policy aims and instruments may change over time, also in the CTP. The Commission has identified seven transport policy areas in which specific policy measures could have a key role in stimulating the expected shift of the transport system to another paradigm. These policy areas are: pricing, taxation, research and innovation, efficiency standards and flanking measures, internal market, infrastructure and transport planning. Only a long-term and overarching strategy established for all identified policy areas has a reasonable chance of achieving the EU objectives. It should combine policy initiatives targeted at enhancing the efficiency of the system through better organisation, infrastructure and pricing with those that are more focused on technology development and deployment. It should also provide a framework for action at all levels of government.

The table below gives a mapping between the drivers identified and the policy areas. It also provides in the second column an indication of possible policy measures in each of the specified policy areas that would be referred to in the White Paper on Transport Policy as component of the overall strategy.

[5] *Evaluation study analysing the performance of the Common Transport Policy in reaching the objectives laid down in the 2001 transport White Paper and in its 2006 mid-term review*, EC2009 http://ec.europa.eu/transport/strategies/studies/doc/future_of_transport/20090908_common_transport_policy_final_report.pdf

[6] *Guide to Cost-Benefit Analysis of Investment Projects,* DG Regio 2008

Table 1: Mapping drivers, policy areas, possible policy measures envisaged in the White Paper and modelling hypothesis

Policy Areas	*Possible policy measures envisaged in the White Paper*	*Modelling hypothesis*
	Driver 1: Cheap for users, expensive to society: prices do not reflect true costs	
Pricing	Strategy for the gradual phasing in of a coherent internalisation system for local externalities in all transport modes on the whole network	Internalisation of local externalities for all modes of transport according to the values specified in the handbook on internalisation[75]
Taxation	Establish a link between vehicle fuel taxation and the environmental performance and full internalisation of the cost of GHG emissions for all modes of transport in a co-ordinated and stepwise manner Establish a link between vehicle taxation and the environmental performance Assess the possibility of introducing VAT on all international passenger transport services inside the EU Promote a revision of company car taxation to eliminate distortions or, as a second best, to provide incentives for clean vehicles.	Elimination of distortions in energy taxation by establishing an energy and CO_2 component in excise duties and abolition of exemptions[76,77] Introduce a CO_2-related element in the registration and annual circulation taxes[78] Introduction of VAT on all international passenger transport services inside the EU[79] Elimination of favourable taxation regime for company cars[80]
	Driver 2: Innovation: transport technologies do not achieve low carbon mobility	
Research and Innovation	Conduct a screening to identify key innovative technologies, with a view to better target existing resources, define a governance structure for organising their development and enhance coordination of European and national (private and public) efforts and funding Bring together all relevant actors within the transport system, to develop research and deployment agendas, to design standards and to build demonstration projects, including bilateral cooperation frameworks in research and innovation with the main transport partners	Improvement of the cost of batteries and of other critical technological components Deployment of supporting infrastructure (charging points, refuelling stations)
Efficiency standards and flanking measures	Use standards for controlling energy efficiency as well as air pollution for all vehicles which have proven to be an effective way of providing the industry with certainty concerning long-term objectives Encourage deployment of clean energy carriers by establishing the necessary supporting infrastructures Improve the effectiveness of fuel efficiency labelling, promote eco-driving and support eco-driving dissemination	Implementation of CO_2 standards for all vehicles (cars, vans, trucks, locomotives, vessels, barges, aircrafts)
	Driver 3: Supply of transport services: not sufficiently efficient	
Internal market	Railways: develop corridors, strengthen the European Railway Agency and ensure convergence of technical standards, reinforce the network of rail regulators and further pursue the opening of markets (domestic passengers). Aviation: effective implementation of the Single European Sky project - from the designation of a network manager, via the integration of national air traffic control to the deployment of the next generation of air traffic management system (SESAR). Maritime transport: simplification of the formalities for ships travelling between EU ports; a single electronic environment for all port/maritime transport related information exchanges and management; and a review of restrictions on provision of port services. Road transport: phase out of restrictions in the internal market like *cabotage* and of non-harmonised enforcement of social legislation. Promote quality jobs and uniform working conditions	Increase in the efficiency of all transport modes as a result of the removal of regulatory, administrative and technical barriers Wide deployment of Intelligent Transport Systems
Infrastructure	Propose a core network consisting of nodes and links relying primarily on the efficient use of existing infrastructure via ITS/smart mobility solutions and aiming at bridging missing links, facilitating multimodality and creating links to third countries. Establish a firm long-term infrastructure plan for the completion of the core network together with EU Member States detailing the projects to be completed as well as the modalities.	Increase in the capacity and performance of the network resulting from the elimination of bottlenecks and addition of missing links
	Driver 4: Transport planning: not sufficiently integrated from the first to the last mile	
Transport planning	Encourage the establishment of urban mobility plans and implementation of related measures to manage demand in non-collective motorised transport modes	Shadow carbon pricing[81] as a proxy for locally determined policies (pricing, support to public transport and non-motorised modes, integrated land planning)

Mapping drivers, policy areas, possible policy measures envisaged in the White Paper and modelling hypothesis (Impact Assessment report of 2011 transport White Paper)

Transport and Territorial Cohesion

A central element of the Community Strategic Guidelines on Cohesion 2007-2013[7] (2005) is the assumption that transport infrastructure and accessibility are necessary conditions for economic growth in the Union, having a direct impact on the attractiveness of regions for businesses and people. This is supported by the Reports on economic and social cohesion[8] (2007, 2010), which

[7] http://ec.europa.eu/regional_policy/sources/docoffic/2007/osc/index_en.htm
[8] http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/cohesion5/index_en.cfm

reiterate how improved accessibility tends to create new job opportunities for rural and urban areas, but warns that potentialities from improving accessibility depend on the previous competitiveness of the regions concerned, being some regions liable to lose out as they become more open to competition from elsewhere. The reports claim the importance of combining investment in transport infrastructure with support for businesses and human capital development to achieve sustainable economic and social development. The Territorial Agenda of the EU[9] (2007) claims the need to support to the extension of the TEN-T for economic development in all regions of the EU, especially in the EU12 countries, while the Green Paper on Territorial Cohesion[10] (2008) later puts the accent on regional and local accessibility as key elements for granting balanced access to services and European transport terminals and networks.

The two dominant themes of spatial planning in Europe, as reflected already in the *Europe 2000* study programme, are the urban and regional dichotomy, and the centre and periphery dichotomy. The "integration" between urban-rural, as well as between centre-periphery has always been the European narrative to overcome territorial unbalances. The necessary links to integrated urban and rural zones were included into the wider concept of "partnership", later on by the ESDP. On the other hand, solving "missing links" in the networks of transport and communication was an important issue in the definition of the Trans-European Transport Networks, and the creation of "integration zones", "polycentric and cross-border development areas", between central and more peripheral regions.

The European Spatial Development Perspective (ESDP) of 1999 (European Commission,1999) lists the trans-European transport networks as major policy field of importance for European spatial development, only second to EU economic policy, because of their effect on both the functioning of the Single Market and economic and social cohesion. In line with its spatial vision of polycentric and balanced system of metropolitan regions, city clusters and city networks, the ESDP called for improvement of the links between international/national and regional/local networks and strengthening secondary transport networks and their links with TENs, including efficient regional public transport systems, improvement of transport links of peripheral and ultra-peripheral regions, both within the EU and with their neighbouring third countries and promoting the interconnection of inter-modal junctions for freight transport, in particular on the European corridors.

Following the European Spatial Development Programme (ESDP), the Study Program on European Spatial Planning (SPESP), carried out a number of specific researches territorial structures and typologies, and the opposition between urban and rural areas. Urban-rural partnerships as defined by the ESDP required among others, a balanced settlement structure and improvement of accessibility (concerning land use and development of public transportation networks). Improved infrastructure and accessibility bring new kinds of rural-urban linkages.

The first Territorial Agenda of the European Union: Towards a More Competitive and Sustainable Europe of Diverse Regions of 2007 (European Commission, 2007) took up the vision of polycentric territorial development of the EU of the ESDP, highlighted the territorial dimension of cohesion and emphasised the importance of integrated and sustainable multi-model transport systems but failed to set priorities.

The new Territorial Agenda of the European Union 2020: Towards an Inclusive, Smart and Sustainable Europe of Diverse Regions of 2011 (European Commission, 2011d) puts spatial development into the framework of the Europe 2020 Strategy and the 5th Cohesion Report and takes up the proposals of the ESDP for inter-modal transport solutions, further development of the trans-European networks between main European centres and improvement of linkages between primary and secondary systems and accessibility of urban centres in peripheries.

The Europe 2020, the growth strategy of the EU for the coming decade, aims at five targets in the fields of employment, research and development, greenhouse gases, renewable energy, energy efficiency, education and social inclusion. European Commission, 2010). The

[9] http http://www.eu-territorial-agenda.eu/Reference%20Documents/Territorial-Agenda-of-the-European-Union-Agreed-on-25-May-2007.pdf

[10] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0616:FIN:EN:PDF

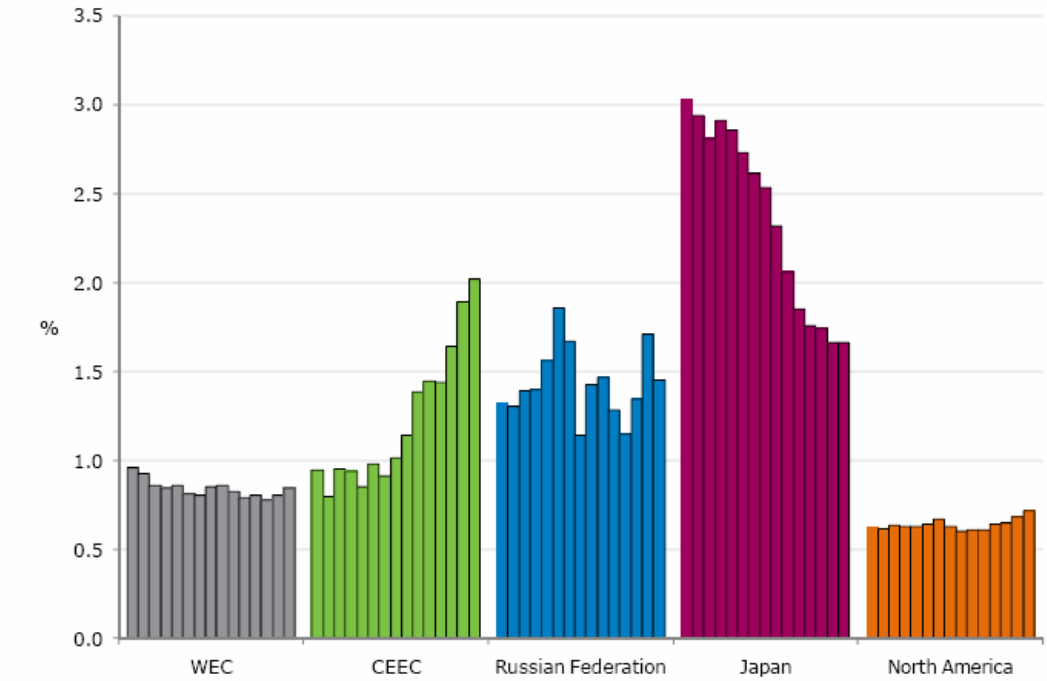
Commission emphasises that essential elements of the transport policy are better integration of transport networks, promoting clean technologies, and upgrading infrastructure. Among the obstacles to be overcome, insufficiently interconnected networks are listed. Transport is listed among the policy tools to be applied only in very general terms as "smart transport and energy infrastructure".

A further example of the current debate on cohesion aspects is the changes in the understanding of the “urban-rural narrative” as put forward through the Spanish Presidency (2010)[11]. Its contribution highlights the need for a thorough investigation of urban-rural relationships and spatial trends in conceptualizing the new pattern of spatial relations, becoming visible through increased flows and implying analysis beyond core and periphery paradigms. New territorial paradigms emerge today thanks to ICTs and to faster and cheaper transport, increased accessibility and connectivity. These changes result on severe reductions of distance or cost to reach core areas of Europe from the peripheries (“cost of being peripheral”) and making remote places more accessible when well connected to the networks. Even when distance still matters, impacts on spatial development become today more complex, ubiquitous centres and peripheries can suddenly emerge almost anywhere, even in remote rural areas, and the challenge is to face increasing development opportunities but also to manage exposure to threats.

Transport investment in Europe 1995-2012

The total investment in infrastructure in Europe between 1995 and 2012 has been on average between 0.9% and 1.2% of total European GDP. The level of investment in Western European Countries has been substantially lower than in the Eastern European countries, but overall levels are well above mean values in other regions of the World such as North America. Investment levels in Europe before the 1990’s were even higher, around 2% of GDP. Between 2007 and 2011, investment in the EU Member States dropped between around 20%, in some countries even 30% (EC Ameco DB).

[11] Spanish Presidency (2010). *Urban-rural narratives and spatial trends in Europe: the State of the Question*, Report prepared by, Mcrit Sl, Barcelona, July 2010

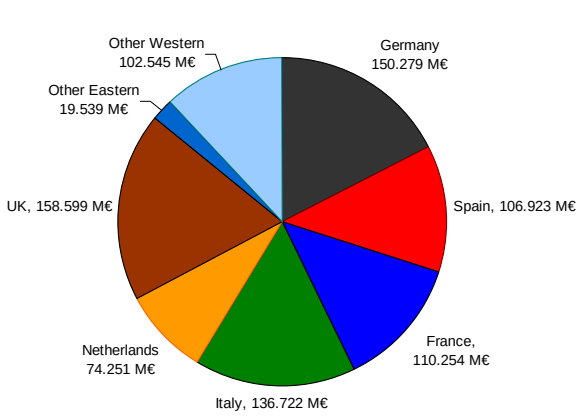


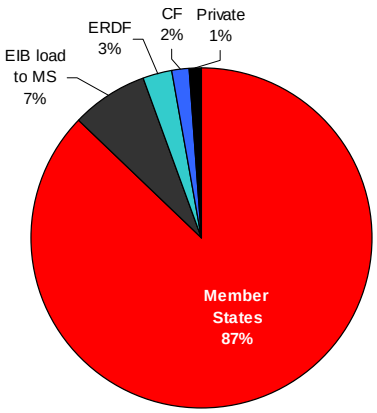
Note: WECs include Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Spain, Sweden and the United Kingdom. CEECs include Albania, Croatia, Czech Republic, Estonia, FYROM, Hungary, Latvia, Lithuania, Montenegro, Poland, Romania, Serbia, Slovakia and Slovenia. North America: United States data 2003-2009 estimated. Public road investment based on Bureau of Economic Analysis data on Investment in Government Fixed Assets (highways and streets). Private road and private rail investment based on U.S. Census Bureau data on Construction Spending. Public rail investment estimated based on Bureau of Economic Analysis data on Investment in Government Fixed Assets (transportation) using fixed share for rail investment based on 2003 data. Inland waterways investment estimated based on data from U.S. Census Bureau data on Construction Spending (from 2003 level annual change). Japan: not including private investments.

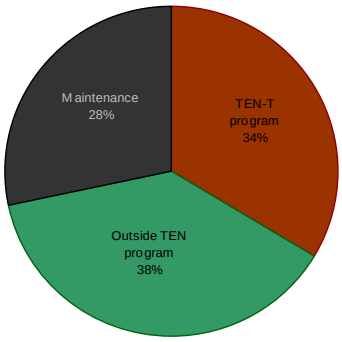
Investment in transport infrastructure 1995-2009 as % of GDP at current prices. (OECD 2011)[12]

In particular, for the programming period 2000-2006, the total investment in the transport sector is estimated in € 859 billion (EC 2008), approximately € 120 billion per year or 1,07% of the total GDP. About 1/3 of all invested funds in transport were spent on infrastructure maintenance, and approximately 60% were specifically dedicated to providing new infrastructure. The funding of new infrastructure proceeded mostly from National budgets of Member States (almost 90%), and only 5% of total expenditure was assumed by European funds (Cohesion Fund and ERDF). Six countries accounted for 85% of the total investment (UK, Germany, Italy, France, Spain and the Netherlands).

[12] International Transport Forum, *Trends in transport infrastructure investment 1995-2009,* OECD Statistics Brief, July 2011







Structure of Infrastructure investment and financing 2000-2006 (EEA, TEN-T EA, EC)

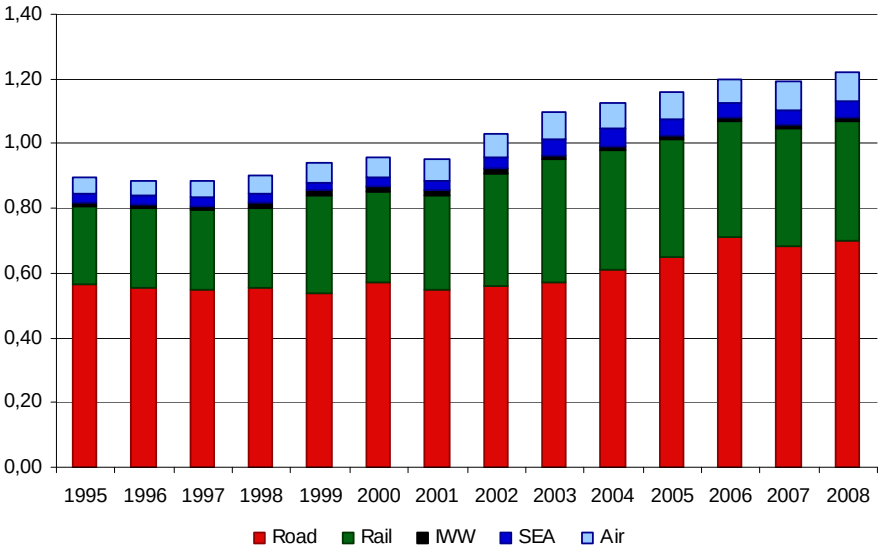
TABLE 3.5 TOTAL TRANSPORT INVESTMENT ACROSS EUROPE: 2000-2006 (€ M)

	MS Public Funding	ERDF	CF	Private	Total	EIB
Austria	13,894	3		n.a.	13,897	871
Belgium	4,699	27		n.a.	4,726	516
Czech Republic	9,371	95	546	n.a.	10,012	2,039
Cyprus	1,073	-	25	1,255	2,355	84
Germany	147,326	2,953		n.a.	150,279	4,080
Denmark	8,271	3		n.a.	8,274	1,705
Estonia	414	20	213	n.a	647.6	8
Spain	83,968	9,523	4,814	8,618	106,923	15,403
Finland	15,422	23		n.a.	15,445	410
France	109,481	774		n.a.	110,254	5,934
Greece	n.a.	4,185	1,490		5,676	4,286
Hungary	63	145	724	n.a.	976	1,516
Ireland	15,335	1,096	294	n.a.	16,725	681
Italy	134,071	2,652		n.a.	136,722	7,638
Lithuania	727	82	126	n.a.	935	75
Luxembourg	1,024	2		n.a.	1,026	386
Latvia	439	56	353	n.a.	848	52
Malta	229	4	9	n.a.	243	
Netherlands	74,155	96		n.a.	74,251	624
Poland	11,046	539	2,694	n.a.	14,279	2,389
Portugal	4,903	2,592	1,635	n.a.	9,130	5,987
Sweden	13,304	63		n.a.	13,367	1,277
Slovakia	3,036	100	381	n.a.	3,523	275
Slovenia	n.a.	4	122	n.a	n.a.	829
UK	158,182	416		n.a.	158,599	4,259
Total EU25	**810,433**	**25,454**	**13,426**	**9,873**	**859,113**	**61,324**

Source: Country reports. Notes: Shaded rows are Member States where information where poor or incomplete: no data for Slovenia; the Belgian figure covers only one region; Hungary and Lithuania data available only since 2004. Greece no public sector figures. Current prices

Total Transport Investment Across Europe 2000-2006 (EC 2009)

For the 1995-2008, the analysis per modes reveals that around 60% of total transport investment (in TENs and in National and Regional infrastructure) has been devoted to Road mode, 20% to Rail and 10% equally split between Air and Water modes (including maintenance).



Total Infrastructure Investment as a share of GDP (per modes) 1995-2008 (EEA 2010)

If focus is placed onto TEN-T only, based on the study TEN-INVEST (EC 2003), the programming period 2000-2006 was expected to allocate around € 290 billion in investments on the TENs (34% of the total for the period).

The analysis reveals that almost half of investments were allocated in rail and around 35% to road. This was especially important in Western European countries, where the development of High Speed Rail networks required large investments (around € 20 million per kilometre of HSR, against € 5 million per kilometre for motorways, on average). In Eastern European countries, investment on roads was still dominant.

Figure 6-1: Share of investments by mode, Member States

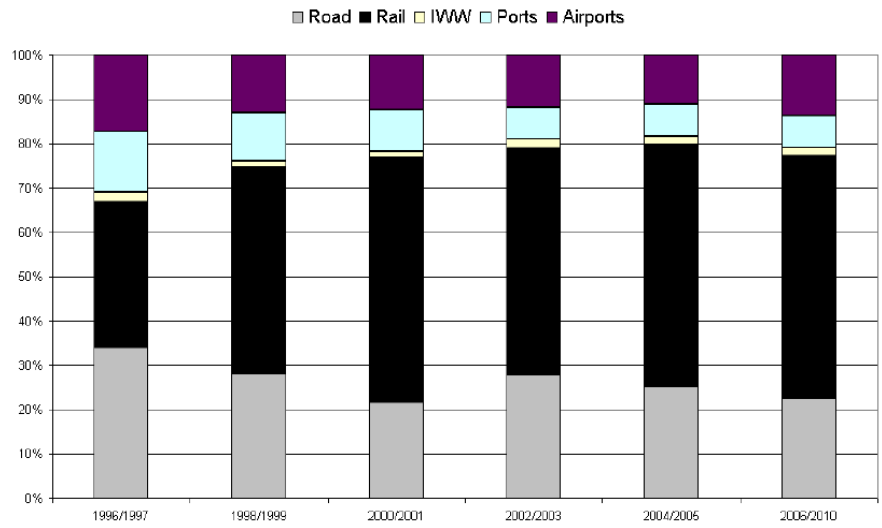


Figure Total Infrastructure Investment in TEN-T per modes in Western Europe 1995-2010[13] (EC 2002)

[13] PLANCO (2002); *TEN-Invest Transport Infrastructure costs and Investments between 1994 and 2010 on the Trans-European,* for the EC DG Transport. Estimations in function of budget projections.

Figure 6-2: Share of investments by mode, Candidate Countries

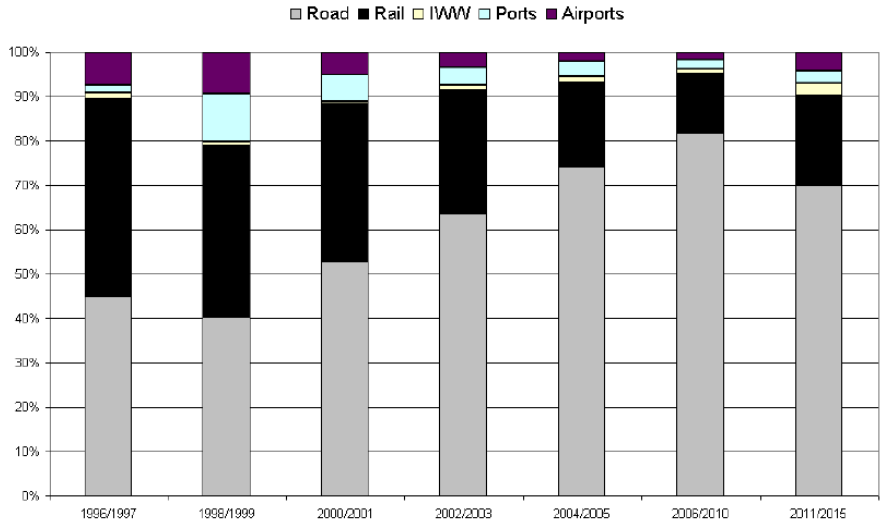
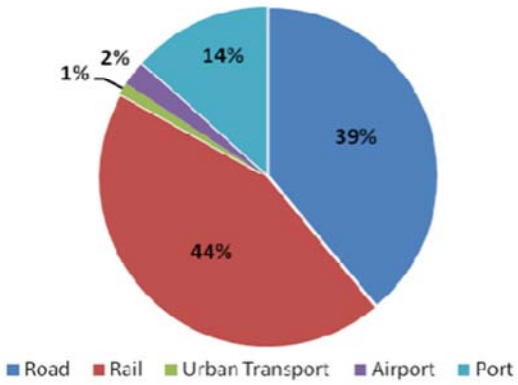


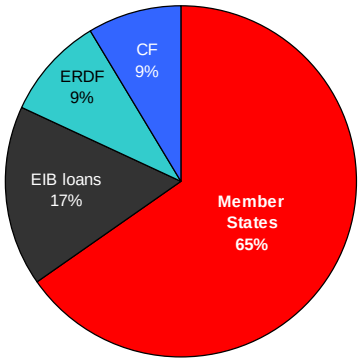
Figure Total Infrastructure Investment in TEN-T per modes in Eastern Europe 1995-2010[14] (EC 2002)

More detailed data is available for beneficiary countries of the ISPA and CF budgets plus Malta and Cyprus (EC 2012). The EU-16 Member States are Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia, Spain, Portugal, Ireland, Greece, Malta and Cyprus. During the period 2000-2006, a total of € 200 billion was invested in the TENs (34% of the total transport investment). During that period, rail projects represented a 44% of the total investment (2.000 km of new rail and 6.700 km of refurbished lines), 39% in road (4.200 km of motorways and upgraded roads), and 14% in ports. Funding came on a 65% for Member States, while the other 35% was obtained from EIB loans and grants, the ERDF and the CF.

Budget allocation per mode



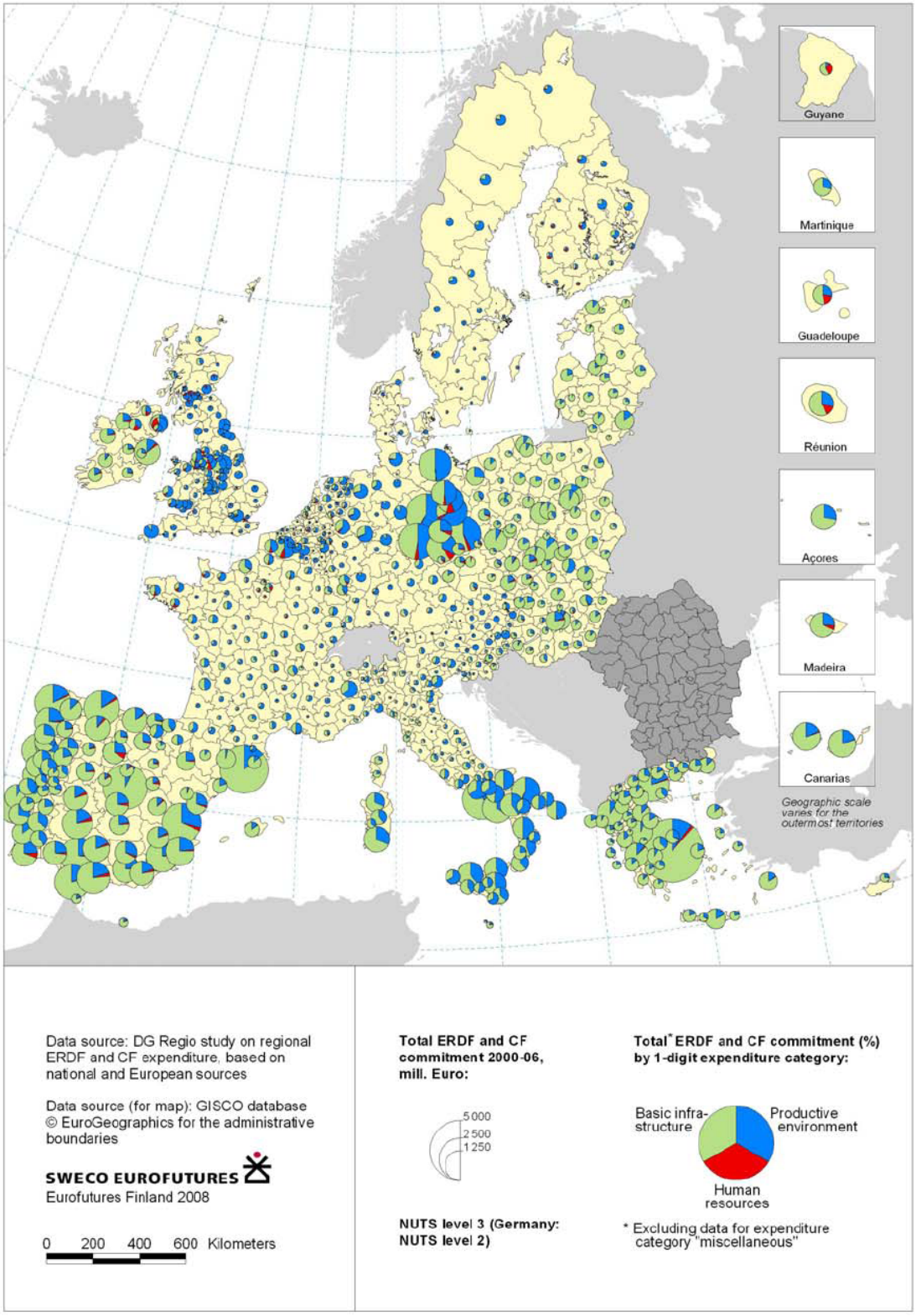
Budget allocation per contributor



Structure of Infrastructure investment in TENs and financing 2000-2006 in the ISPA and CF Beneficiaries plus Malta and Cyrpus (EC 2012)

[14] PLANCO (2002); *TEN-Invest Transport Infrastructure costs and Investments between 1994 and 2010 on the Trans-European,* for the EC DG Transport. Estimations in function of budget projections.

Map 1: Total ERDF and CF commitment, 2000-2006, mill. Euro



Total ERDF and CF commitment, 2000-2006, in million euros. (DG Regio 2008)[15]

[15] SWECO et al (2008), *ERDF and CF Regional Expenditure,* for EC DG Regio, July 2008

Table 2.8 – Investment in Transport in the EU-16 Member States 2000-2006 (€m)

Country	Member State Funding	ERDF	ISPA/CF Commitments	EIB	Total	Total Excluding ERDF	Total Excluding ISPA/CF	% of ERDF to Total	% of ISPA/CF to Total
Bulgaria	-	-	444	n/a	**444**	444	-	-	100%
Cyprus	1,073	-	51	84	**1208**	1208	1,157	0%	4%
Czech Rep	9,371	95	604	2,039	**12,109**	12014	11,505	1%	5%
Estonia	414	20	213	8	**655**	635	442	3%	48%
Greece	n/a	4,185	1,367	4,286	**9,838**	5653	8,471	74%	16%
Hungary	63	145	1,057	1,516	**2,781**	2636	1,724	6%	61%
Ireland	15,335	1,096	312	681	**17,424**	16328	17,112	7%	2%
Latvia	439	56	352	52	**899**	843	547	7%	64%
Lithuania	727	82	412	75	**1,296**	1214	884	7%	47%
Malta	229	4	9	n/a	**242**	238	233	2%	4%
Poland	11,046	539	2,965	2,389	**16,939**	16400	13,974	3%	21%
Portugal	4,903	2,592	1,633	5,987	**15,115**	12523	13,482	21%	12%
Romania	-	-	1,077	n/a	**1,077**	1077	0	0%	100%
Slovakia	3,036	100	381	275	**3,792**	3692	3,411	3%	11%
Slovenia	n/a	4	132	829	**965**	961	833	0%	16%
Spain	83,968	9,523	6,423	15,504	**115418**	105895	108,995	9%	6%
TOTAL	**130604**	**18,441**	**17,432**	**33,725**	**200202**	**181761**	**182770**	**10%**	**10%**

Source: Based upon Table 4.1 of the Ex Post Evaluation of Cohesion Policy Programmes 2000-2006 Co-financed by the ERDF. Note: some of the financial information for Member States is poor or incomplete. No information for Bulgaria and Romania is available, other than ISPA/CF.

Investment in TENs 2000-2006 in the ISPA and CF Beneficiaries plus Malta and Cyrpus (EC 2012)

In synthesis, the analysis of past trends allows to take the following conclusions. Between 1995 and 2012:

- The EU has spent on average between 0.9% and 1.2% of EU GDP in infrastructure investment.
- About 1/3 of available funds have been spent on infrastructure maintenance and the rest on construction of new infrastructure.
- More than 85% of investment is financed with Member States national budgets. EU funds represent 5% of investment, and almost 10% is constituted by EIB loans and private investments.
- Around 60% of total investment has been devoted to Road mode. 20% to Rail and 10% equally split between Air and Water modes.
- 50% of investment devoted to new infrastructure is targeted at TEN-T networks, and the other half to national networks.
- Almost half of investment on TEN-T has been devoted over the last 10 years to rail, and around 35% to road. In the ISPA and CF beneficiary countries, the proportion of road investments is slightly higher, approaching 40%.

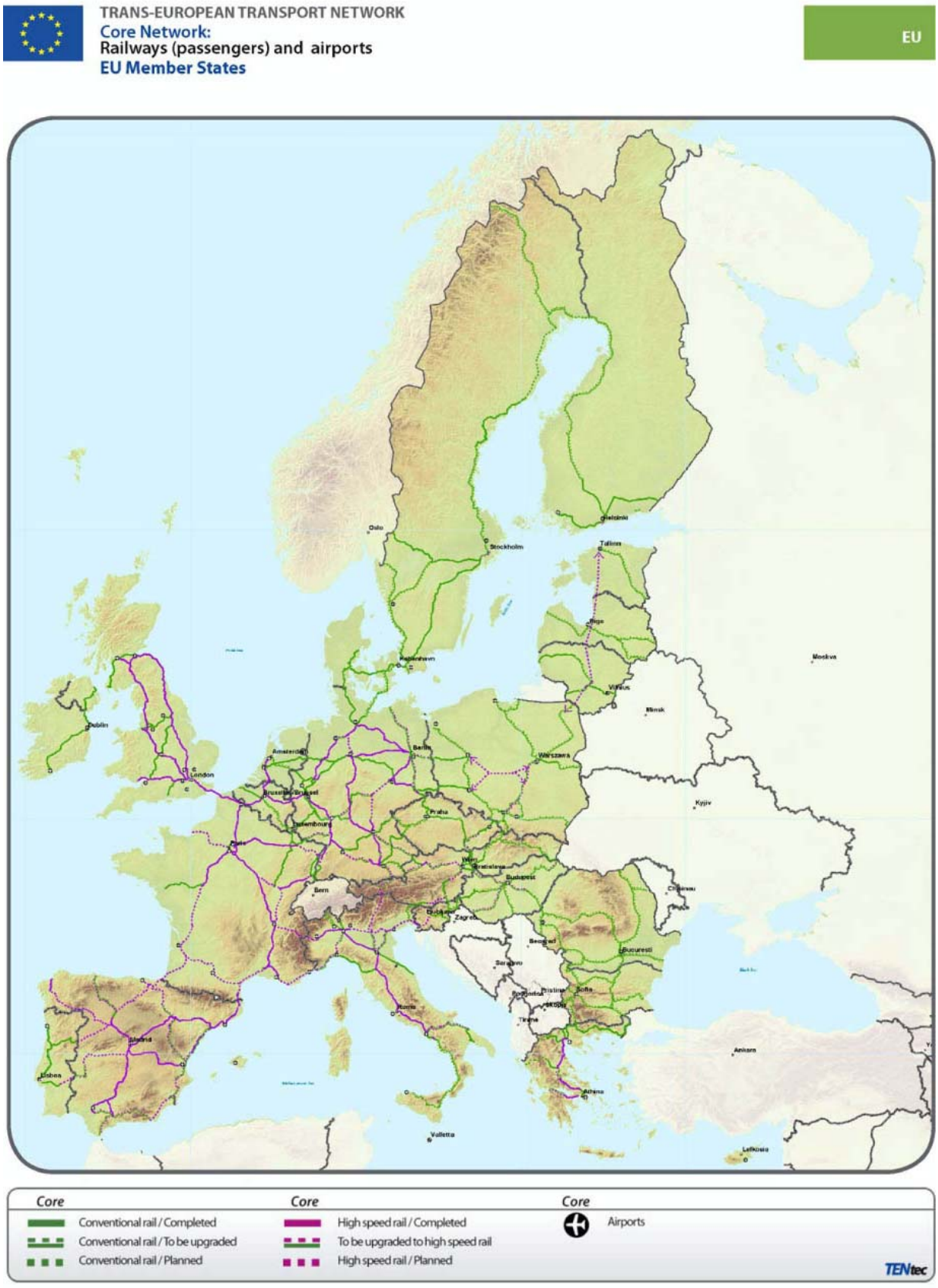
Investment needs in the TENs according to 2011 EC Transport White Paper

The cost of EU infrastructure development to match the demand for transport has been estimated by the 2011 EC Transport White Paper in € 1.5 trillion for 2010-2030. In fact, the completion of the TEN-T network would require about € 550 billion, which some € 215 billion could be referred to the removal of the main bottlenecks. This does not include investment in vehicles as well as guidance and information systems.

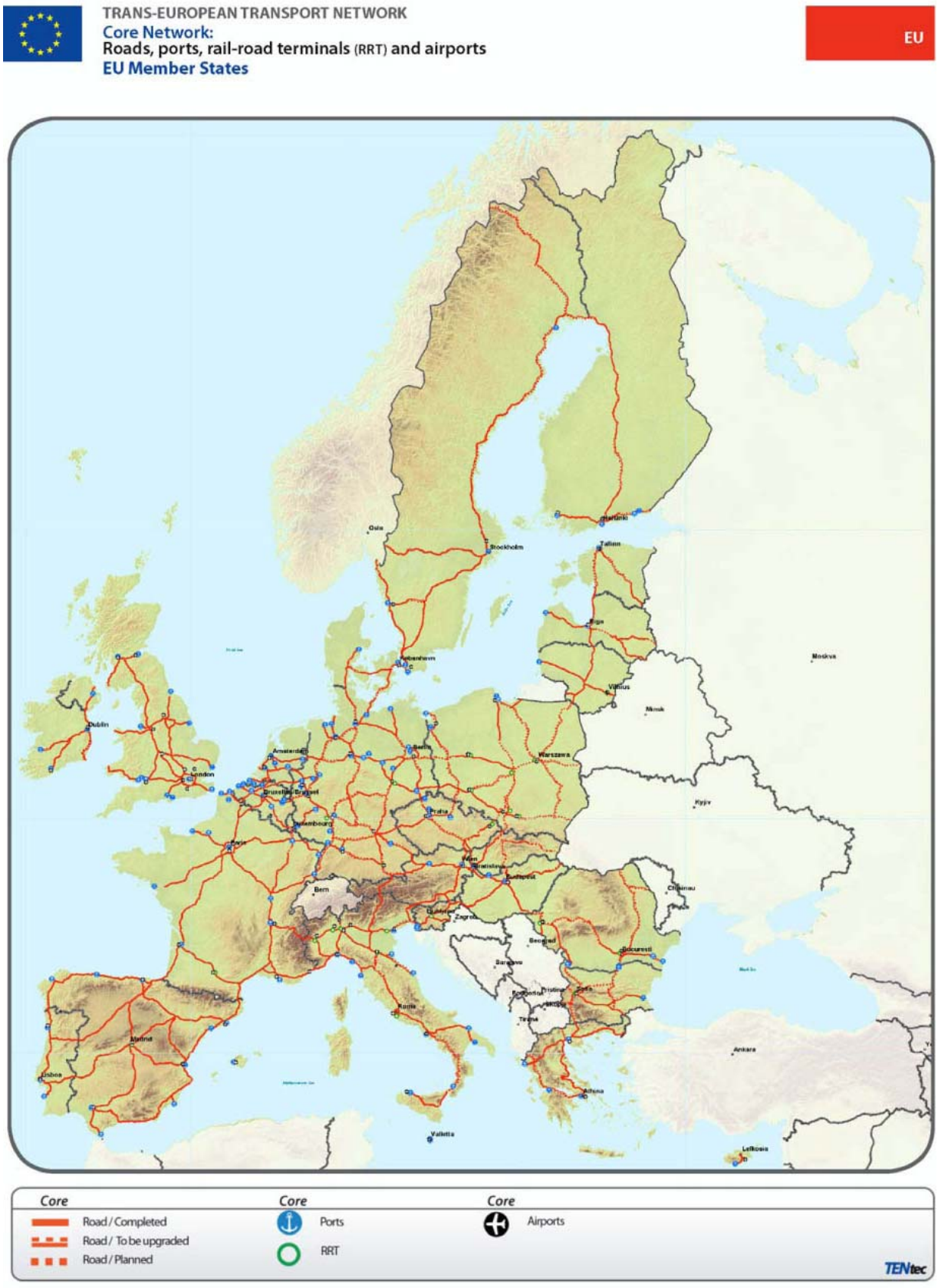
It has been estimated in ET2050, based on the current development of the TENs and TRANS-TOOLS modelled infrastructure, that approximately 50% of these investments would require being allocated to rail infrastructure, almost 30% to road, and the rest would be evenly distributed between the air mode and the maritime. For the land-based infrastructure, this would imply acting over approximately 21.500km of roads, 8.500km of high speed rail and 5.000km of conventional rail.

Mode	Investment required to complete TEN-T	Network considered
Road	150.000 M€	21.400 km
Rail	275.000 M€	13.400 km (65% in HSR)
Air	65.000 M€	
Ports	60.000 M€	
Total TEN-T	550.000 M€	

Estimated infrastructure needs to complete TENs (based on 2012 EC Transport WP, TEN-EA TRANS-TOOLS)



TEN-T Rail Core Network. Guidelines Revision (proposal) (EC, December 2011)



TEN-T Road Core Network. Guidelines Revision (proposal) (EC, December 2011)

Transport infrastructure budget 2013-2030 in ET2050 Scenarios

Based on available GDP each year, for each scenario, and on alternative hypothesis of transport investment evolution as a % of GDP, the different scenarios come up with an overall 2013-2030 budget to be invested in the TENs, at National and Regional levels, in transport management and maintenance, and in implementation of smart transport infrastructure.

Budgets are then used to build transport infrastructure in Europe in the TENs (core and comprehensive), and the national and regional networks.

- The MOSAIC model implements investments in the TENs network (core and comprehensive), selecting specific links of the transport network to be upgraded. Links to which investments are dedicated are chosen with criteria of efficiency (links with highest levels of traffic) and cohesion (links in lagging regions). (see following chapter)

- National and regional infrastructure budgets are distributed on a NUTS2 level, according to alternative criteria in each scenario.

All scenarios consider a reduction of transport investment budgets in Europe between 2007 and 2014, in line with trends observed for the Gross Capital Formation in Europe between 2007 and 2011 (AMECO DB, civil engineering and transport equipment categories).

Overall investments for the 2013-2030 period are in all cases lower than in the 1995-2012 period. The TENs are not completed in any of the scenarios.

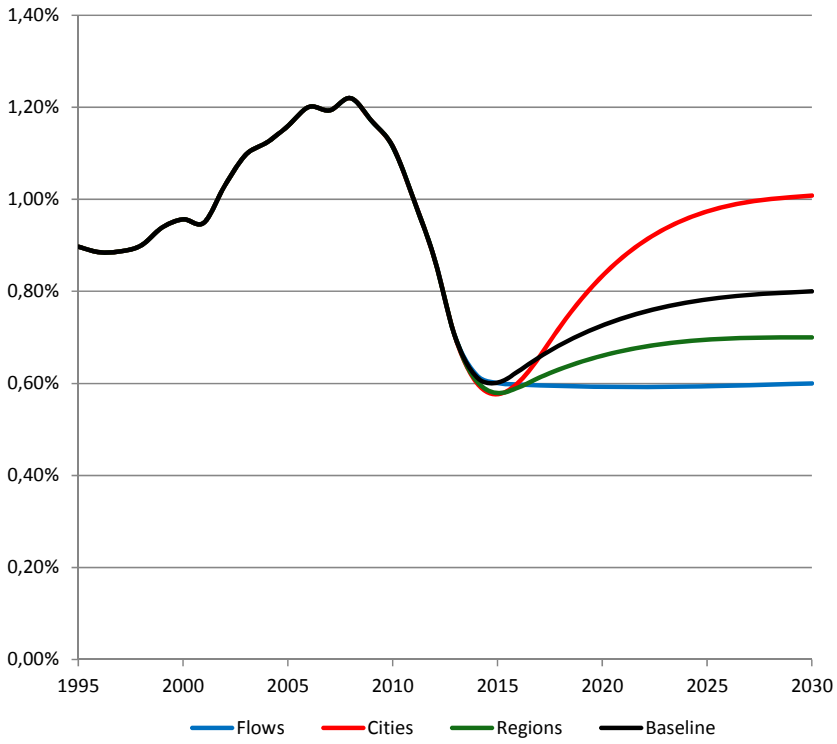
The main scenario orientations are as follows:

- The BASELINE is a propagation of observed trends since 1995, taking into account the financial crisis.

- The A Scenario “FLOWS” considers relatively low levels of infrastructure investment, allocated in where in those projects were investments provide more return (mostly in the busiest links of the networks). Airports and ports are a priority in the flows scenario. Within each country, available regional investments are allocated in those areas more open to the global economy.

- The B Scenario “CITIES” considers higher levels of infrastructure investment than all other scenarios, with high stress in rail infrastructure. European investments are allocated based on balanced criteria of efficiency and cohesion. Within each country, available regional investments are allocated in those areas being more populated.

- The C Scenario “REGIONS” has lower investment than CITIES but higher than FLOWS. It gives more attention to local and regional infrastructure than to TENs. Management and infrastructure maintenance is increasingly important compared to other scenarios. European scale investments follow more territorially balanced patterns, tending to benefit Eastern Europe. Within each country, available regional investments are allocated according to landscape and environmental conservation criteria.



Total transport expenditure per scenario (% of GDP)

Below, the basic hypotheses are detailed below for each scenario.

BASELINE

- € 1.970 billion (2013-2030) in transport investment, 0'73% of cumulated GDP. Infrastructure investment rate in 2030 converging to Western European Countries (WECs) levels (0,8%).
- 2% of budget on ITS implementation
- 1,0% yearly maintenance budget maintained
- € 330 billion in TENs and € 700 billion in National and Regional networks (32% in the TENs)
- 60% of required investments to complete the TENs engaged up to 2030
- € 166 billion in the CORE network and € 161 billion in Comprehensive network. Projects evenly allocated between core and comprehensive networks (50% // 50%).
- Modal allocation of investment in TENs, in line with overall 1995-2012 period.

A Scenario "FLOWS"

- € 1.610 billion (2013-2030) in transport investment, 0'60% of cumulated GDP. Infrastructure investment rate in 2030 converging to typical North America levels (0,6%).

- 10% of budget on ITS implementation
- Yearly maintenance budget reduced to 0,6% in 2030
- € 330 billion in TENs and € 500 billion in National and Regional networks (40% in the TENs)
- 60% of required investments to complete the TENs engaged up to 2030
- € 290 billion in the CORE network and € 35 billion in Comprehensive network. Projects mostly allocated in the Core (85% // 15%).
- Modal allocation of investment in TENs, substantially increased for air and ports, substantially decreased for rail.

B Scenario "CITIES"

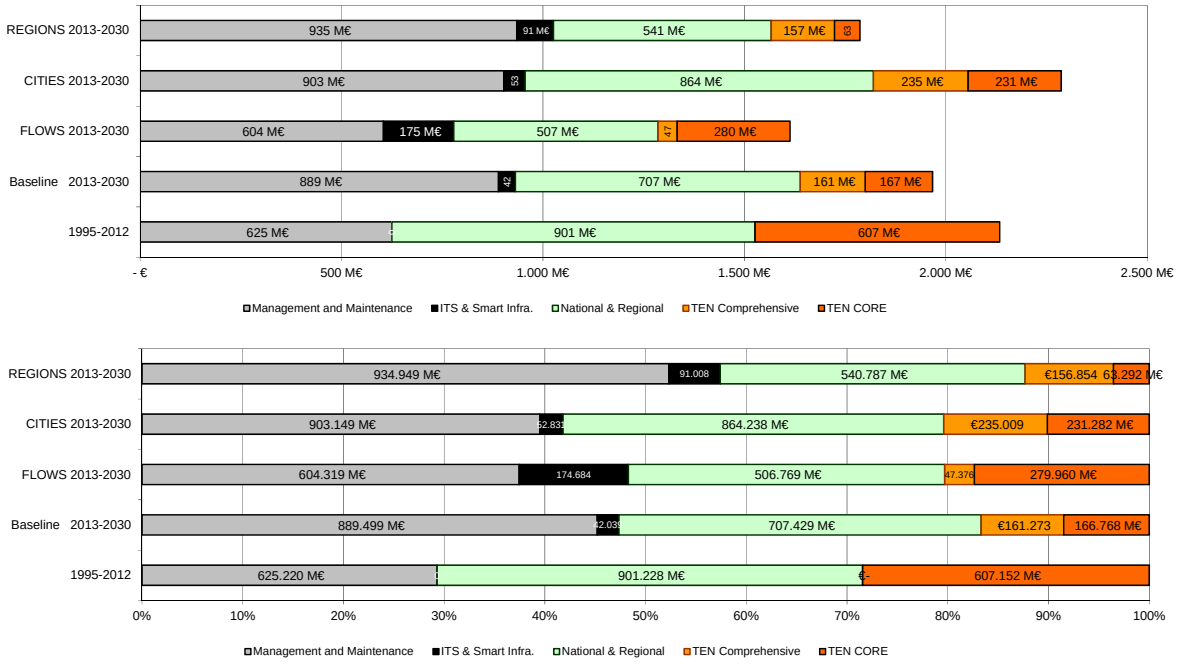
- € 2.290 billion (2013-2030) in transport investment, 0'85% of cumulated GDP. Infrastructure investment rate in 2030 converging to typical EU level in the 1990s (1,0%).
- 2% of budget on ITS implementation, like in Baseline
- 1% yearly maintenance budget maintained
- € 470 billion in TENs and € 865 billion in National and Regional networks (35% in the TENs)
- 85% of required investments to complete the TENs engaged up to 2030
- € 231 billion in the CORE network and € 235 billion in Comprehensive network. Projects evenly allocated between core and comprehensive networks (50% // 50%).
- Modal allocation of investment in TENs, increasingly rail based.

C Scenario "REGIONS"

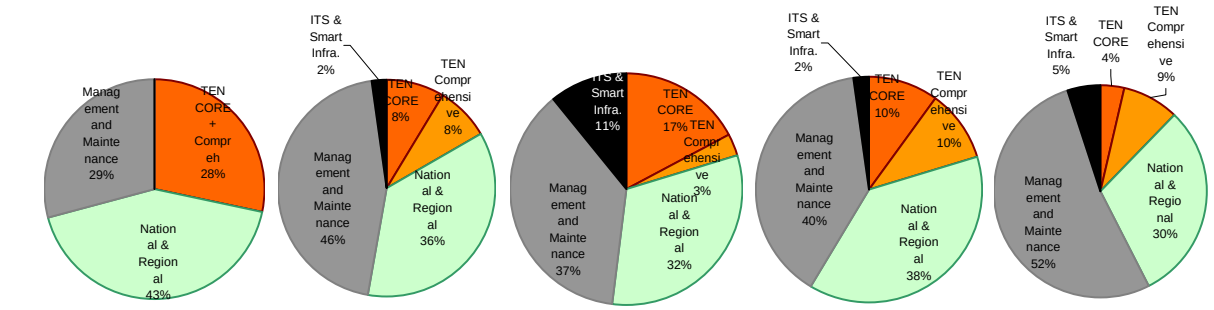
- € 1.790 billion (2013-2030) in transport investment, 0'67% of cumulated GDP. Infrastructure investment rate in 2030 converging to 0,7%.
- 5% of budget on ITS implementation
- Yearly maintenance budget increased to 1,2% in 2030
- € 220 billion in TENs and € 540 billion in National and Regional networks (29% in the TENs)
- 40% of required investments to complete the TENs engaged up to 2030
- € 65 billion in the CORE network and € 160 billion in Comprehensive network. Projects mostly allocated in the Comprehensive network (30% core // 70% comprehensive).
- Balanced modal allocation of investment in TENs, as in Baseline

Transport Investment in Europe	1995-2012		Baseline 2013-2030		SCENARIO A (2013-2030)		SCENARIO B (2013-2030)		SCENARIO C (2013-2030)	
Average anual GDP growth	1,55%		1,88%		2,22%		2,31%		1,82%	
% GDP spent in transport investment	**1,04%**		**0,73%**		**0,60%**		**0,85%**		**0,67%**	
in TEN CORE infrastructure	28,5%	*607.152 M€*	8,5%	*166.768 M€*	17,3%	*282.920 M€*	10,1%	*234.319 M€*	3,5%	*63.171 M€*
in TEN COMPREHENSIVE infrastructur	0,0%	*- €*	8,2%	*161.273 M€*	2,9%	*47.874 M€*	10,3%	*238.106 M€*	8,8%	*156.554 M€*
in National & Regional infrastructure	42,2%	*901.228 M€*	36,0%	*707.429 M€*	31,8%	*518.214 M€*	38,2%	*885.714 M€*	30,2%	*538.287 M€*
in management and maintenance	29,3%	*625.220 M€*	45,2%	*889.499 M€*	37,1%	*605.360 M€*	39,1%	*905.629 M€*	52,4%	*934.622 M€*
in ITS and smart infrastructure	0,0%	*- €*	2,1%	*42.039 M€*	10,8%	*176.577 M€*	2,3%	*53.481 M€*	5,1%	*90.844 M€*
TOTAL	100,0%	2.133.600 M€	100,0%	1.967.008 M€	100,0%	1.630.946 M€	100,0%	2.317.248 M€	100,0%	1.783.478 M€
Modal split of infrastructure investment in TENs (CORE + COMPREHENSIVE)										
% road	29,9%	*181.727 M€*	29,5%	*96.636 M€*	36,2%	*119.685 M€*	26,3%	*124.124 M€*	30,3%	*66.577 M€*
% rail	44,6%	*270.835 M€*	42,1%	*138.256 M€*	24,6%	*81.491 M€*	49,6%	*234.240 M€*	43,3%	*95.180 M€*
% air	9,9%	*60.303 M€*	10,6%	*34.849 M€*	17,8%	*58.741 M€*	8,5%	*40.272 M€*	10,9%	*24.002 M€*
% ports	8,0%	*48.751 M€*	10,3%	*33.697 M€*	16,4%	*54.337 M€*	8,1%	*38.358 M€*	10,5%	*22.979 M€*
% intermodal	7,5%	*45.536 M€*	7,5%	*24.603 M€*	5,0%	*16.540 M€*	7,5%	*35.432 M€*	5,0%	*10.986 M€*
Provision of new infrastructure in the TENs										
New or upgraded roads (km)	21.400 km		11.400 km		14.100 km		14.600 km		7.800 km	
New HSR lines	8.500 km		4.300 km		3.100 km		8.900 km		3.000 km	
Upgraded rail lines	4.900 km		2.500 km		300 km		1.000 km		1.700 km	
In the CORE network										
Roads			5.130 km		8.460 km		4.088 km		1.950 km	
HSR lines			2.430 km		3.100 km		5.340 km		750 km	
Conventional rail			1.413 km		300 km		600 km		425 km	

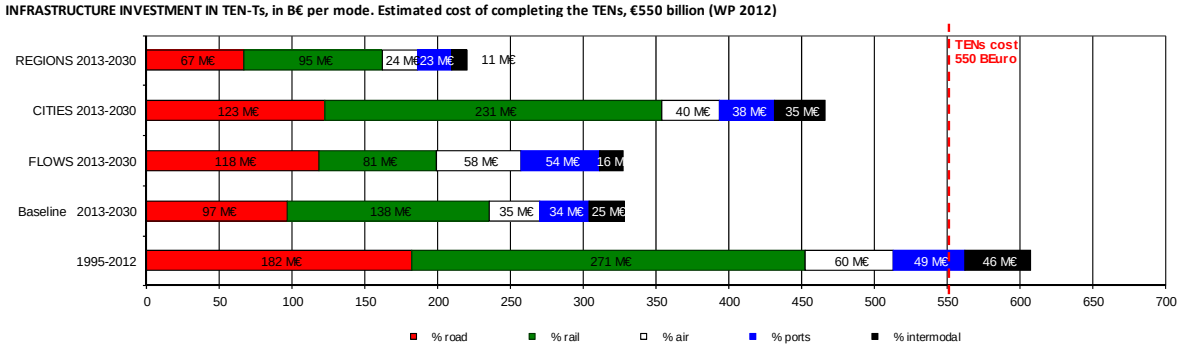
Synthesis of key indicators of transport investment in ET2050

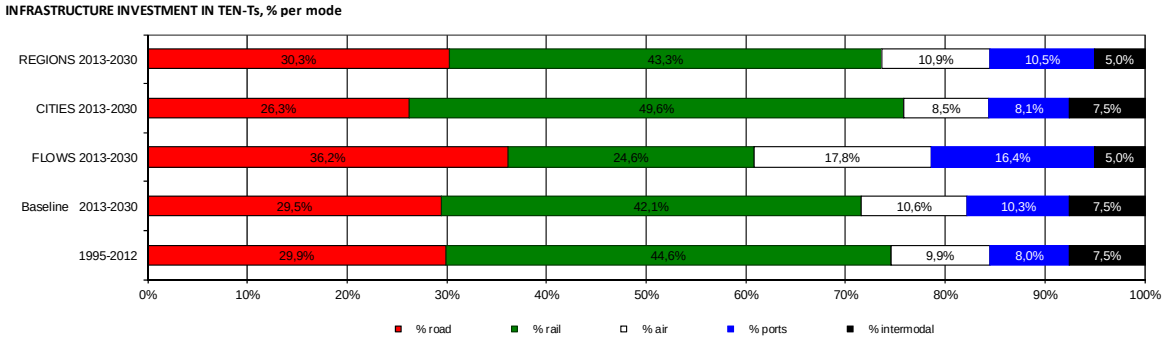


Total transport investment 2013-2030 for different scenarios, compared to 1995-2012 observations. Absolute values on top, relative at the bottom

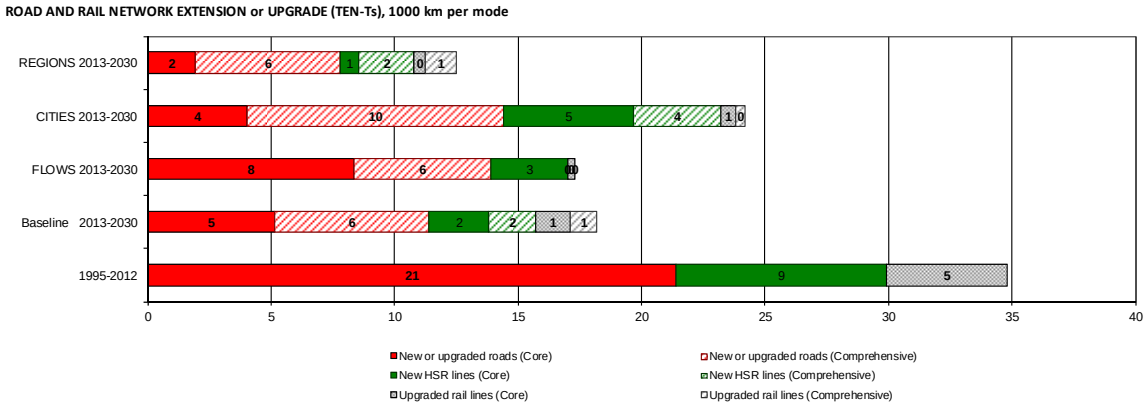


Total transport investment abatement by major chapters. 2013-2030 for different scenarios, compared to 1995-2012 observations.





TENs transport investment per modes. 2013-2030 for different scenarios, compared to 1995-2012 observations. Absolute values on top, relative at the bottom



TENs network development per modes. 2013-2030 for different scenarios, compared to 1995-2012 observations (in kilometres)

Allocation of transport investments in the road and rail TENs

The following figures synthesise the proposal for alternative hypothesis in relation to infrastructure endowment in ET2050. This proposal is based on variations upon the baseline.

MOSAIC implements sets of new transport infrastructure specifically for each scenario and the Baseline. The new links implemented will correspond to investments in the TEN-T core network based on investment budgets determined in previous chapters. The size of the new infrastructure to be provided is synthesised in the following table:

	Baseline	FLOWS	CITIES	REGIONS
Construction of TEN-T core roads (km)	11.400	13.900	14.400	7.800
Construction of TEN-T core HSR (km)	4.300	3.100	8.800	3.000
Construction of TEN-T core conventional rail (km)	2.500	300	1.000	1.700

Synthesis of new infrastructure provide in MOSAIC

The selection of specific links in MOSAIC graph (rail and road) is based both on "cohesion" principles (eastern European links are more likely to be selected) and on "competitiveness" principles (links with highest levels of traffic are more likely to be selected).

$$P_i = \left(\frac{Traffic_i}{MaxTraffic_{EU}} \right)^{\alpha} \left(\frac{MaxGDPcapita_{EU}}{GDPcapita_j} \right)^{\beta}$$

With

P_i . probability of link i being chosen to be upgraded
$Traffic_i$. traffic through link i
$MaxTraffic_{EU}$. maximum traffic of all links on the model
$GDPcapita_j$. income per capita of NUTS3 j were link i is located
$MaxGDPcapita_{EU}$. maximum income per capita of all NUTS3
$\alpha, \beta \in [0,1]$ constants

The selection of links for each ET2050 scenario responds to the following α, β parameters, presented in the following table.

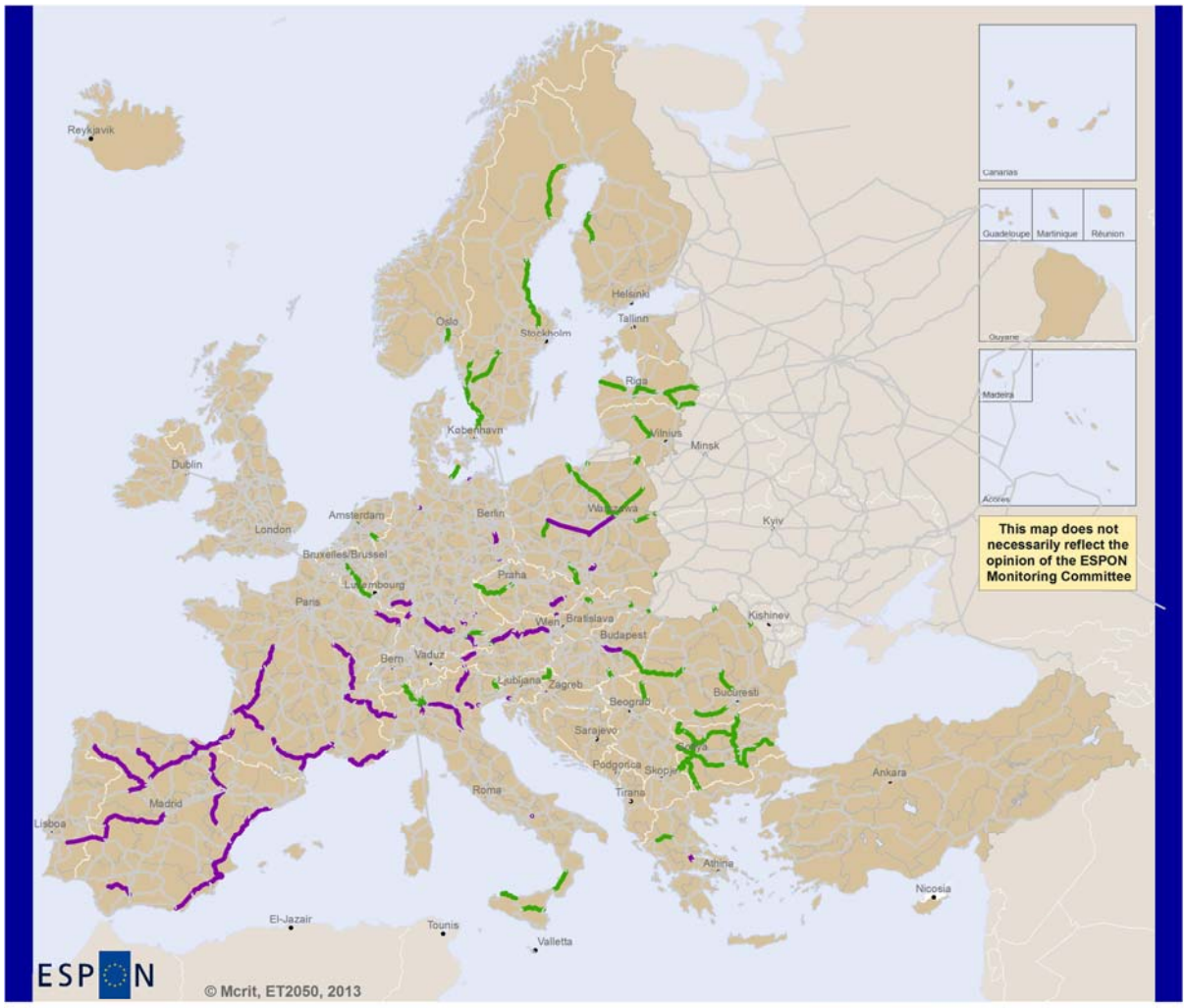
	Baseline	FLOWS	CITIES	REGIONS
α	0.60	0.90	0.40	0.10
β	0.40	0.10	0.60	0.90

Competitiveness (α) and Cohesion (β) parametres for scenarios

The following maps show the implemented rail networks for the **Baseline** up 2030.

TEN infrastructure

Projects on the rail network



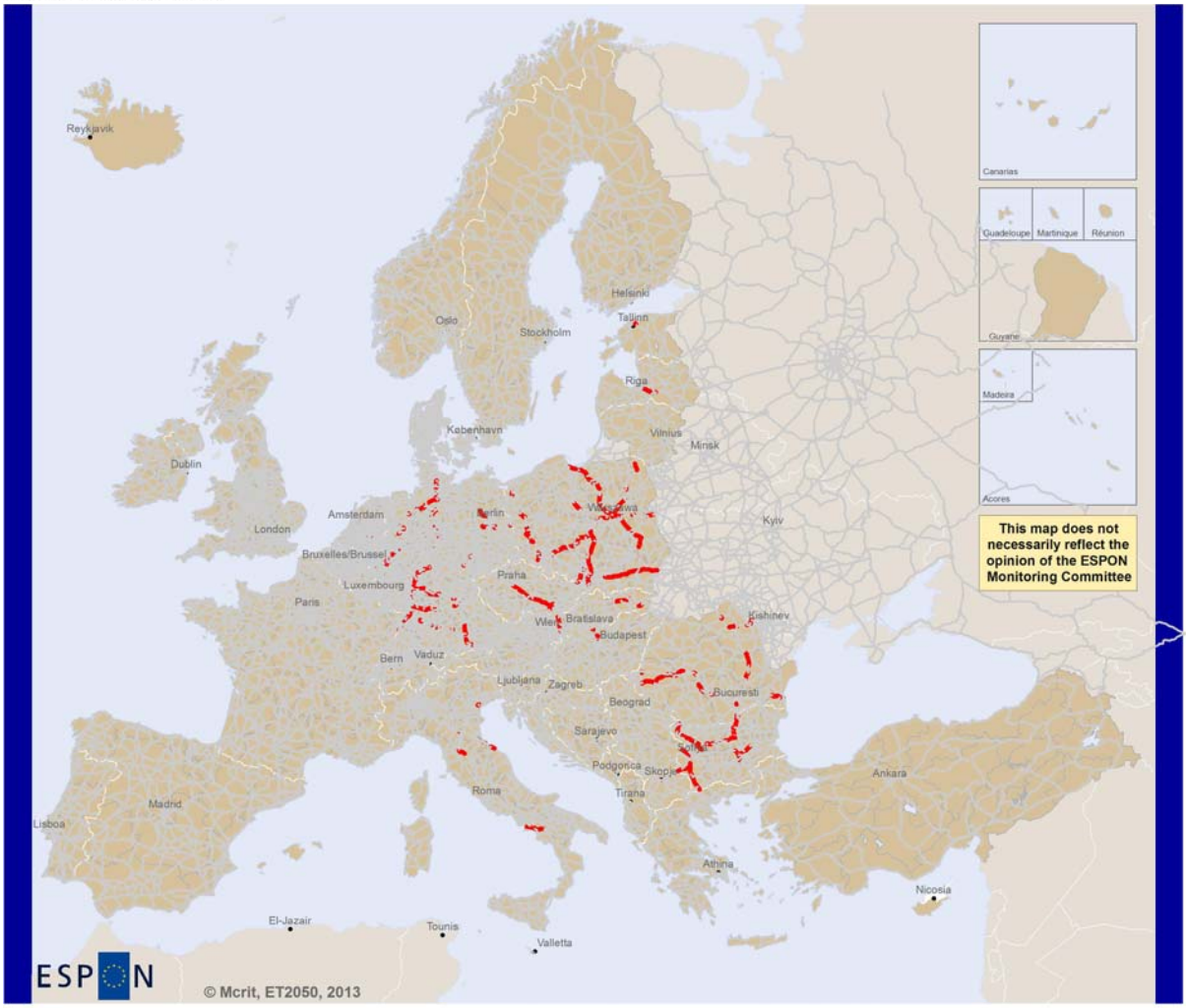
EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

Regional level: NUTS 2
Source: Mcrit, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

- Rail network
- TEN Core conventional projects
- TEN Comprehensive conventional projects
- TEN Core High speed projects
- TEN Comprehensive High speed projects

TEN infrastructure

Projects on the road network



EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

Regional level: NUTS 2
Source: Mcirt, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

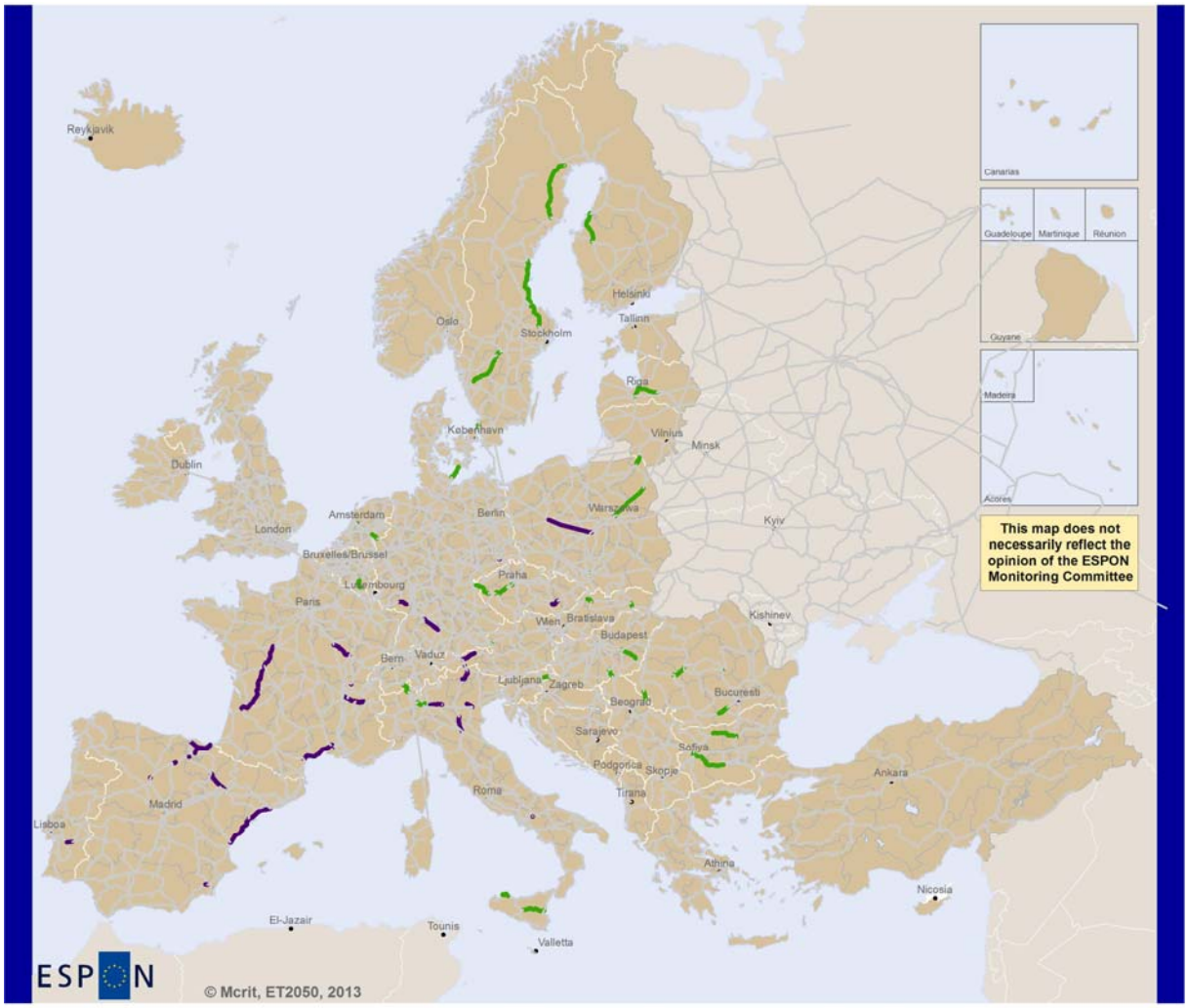
Road network
TEN Core road projects
TEN Comprehensive road projects

.

The following maps show the implemented rail networks for the **Scenario A "FLOWS"** up 2030.

TEN infrastructure

Projects on the rail network



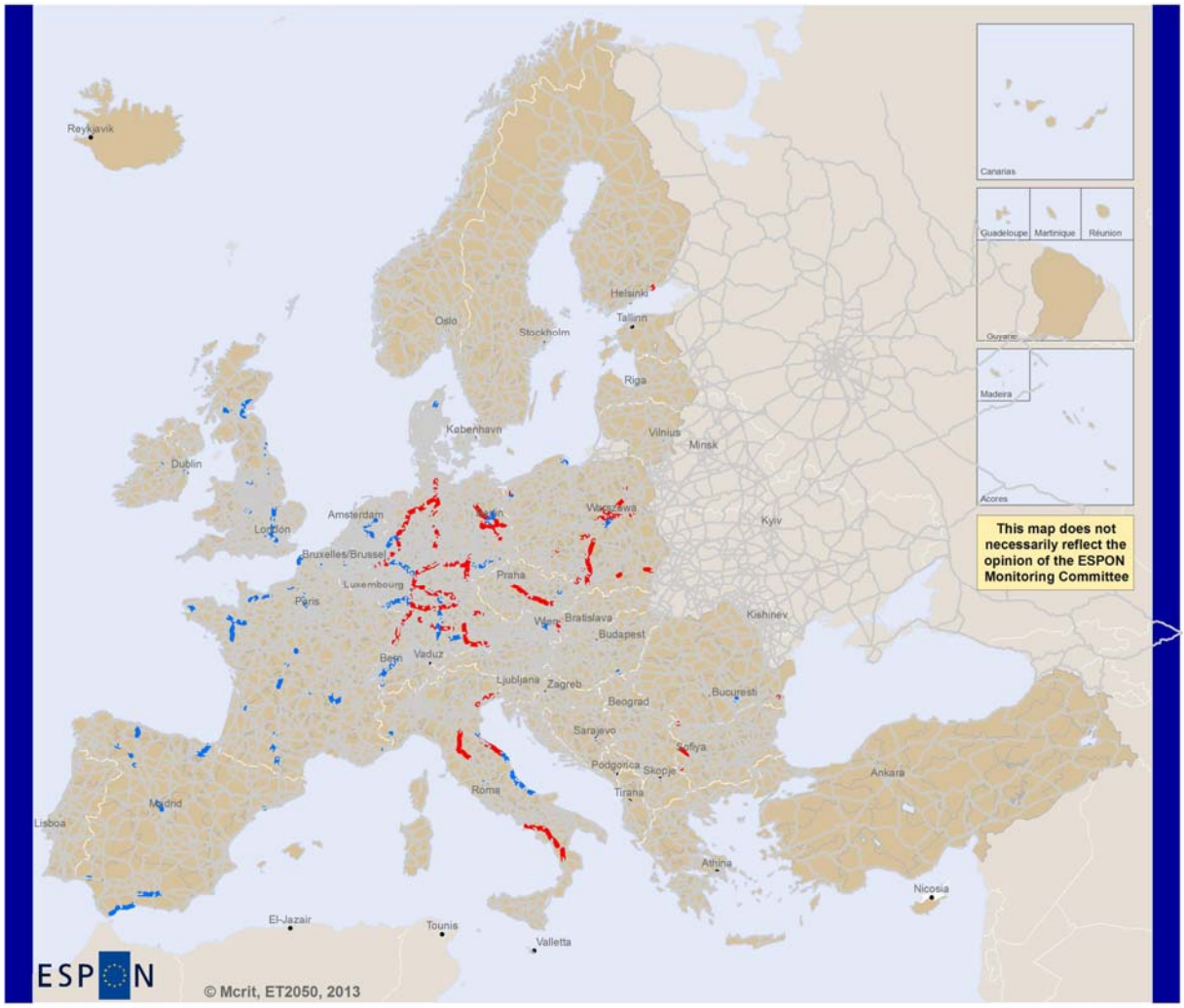
EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

Regional level: NUTS 2
Source: Mcrit, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

- Rail network
- TEN Core conventional projects
- TEN Comprehensive conventional projects
- TEN Core High speed projects
- TEN Comprehensive High speed projects

TEN infrastructure

Projects on the road network



EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

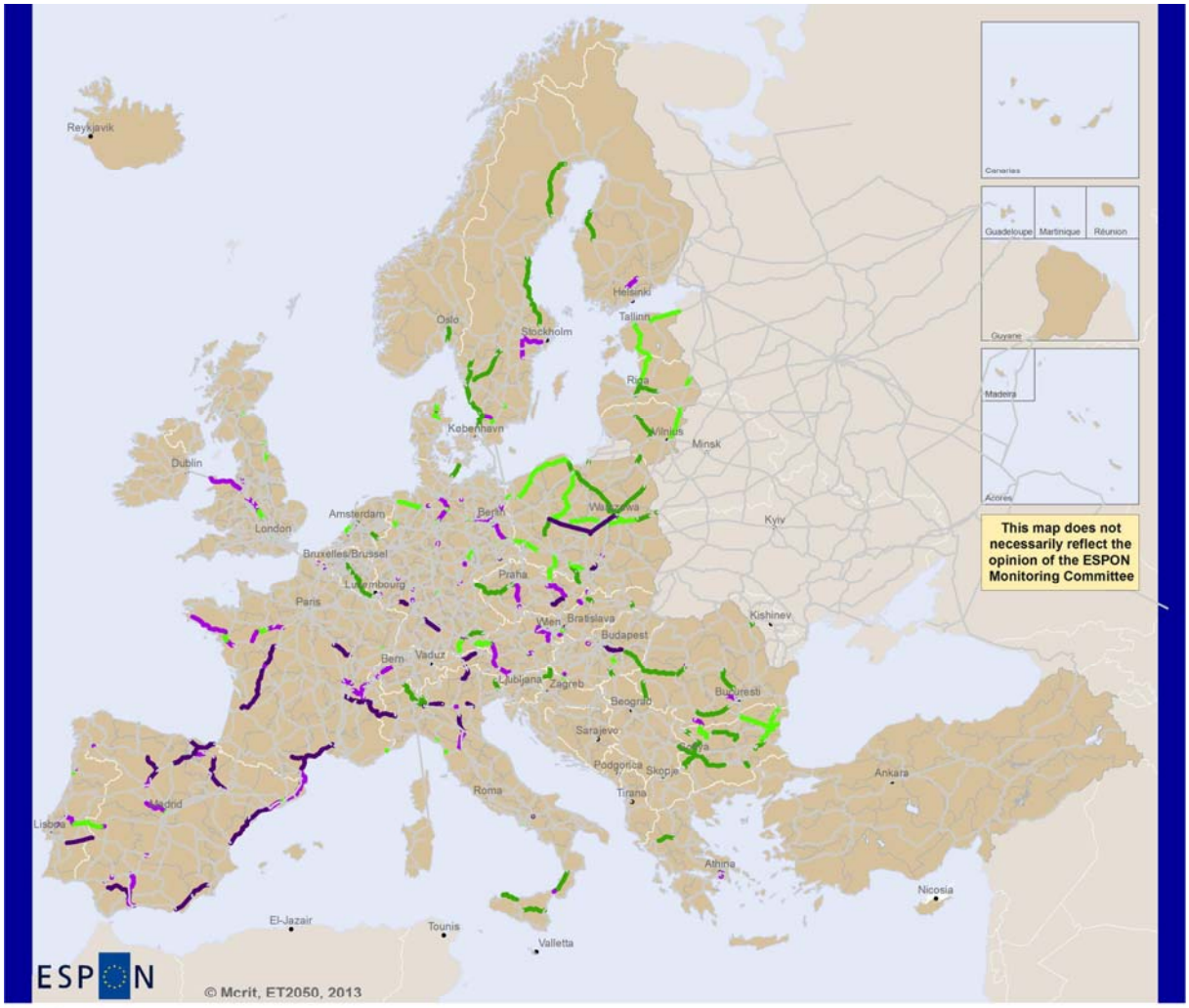
Regional level: NUTS 2
Source: Mcrit, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

Road network
TEN Core road projects
TEN Comprehensive road projects

The following maps show the implemented rail networks for the **Scenario B "CITIES"** up 2030.

TEN infrastructure

Projects on the rail network



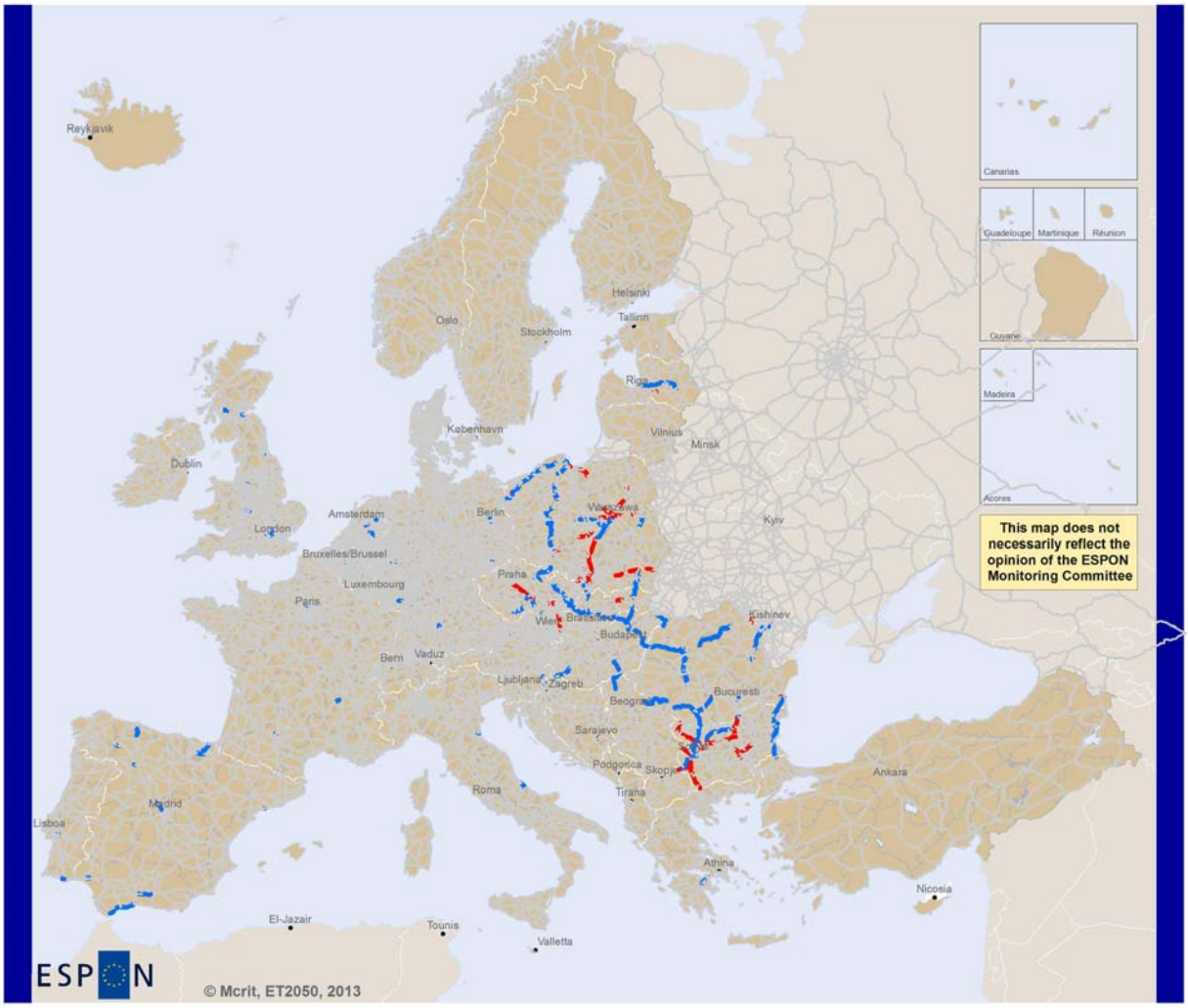
EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

Regional level: NUTS 2
Source: Mcrit, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

Rail network
TEN Core conventional projects
TEN Comprehensive conventional projects
TEN Core High speed projects
TEN Comprehensive High speed projects

TEN infrastructure

Projects on the road network



EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

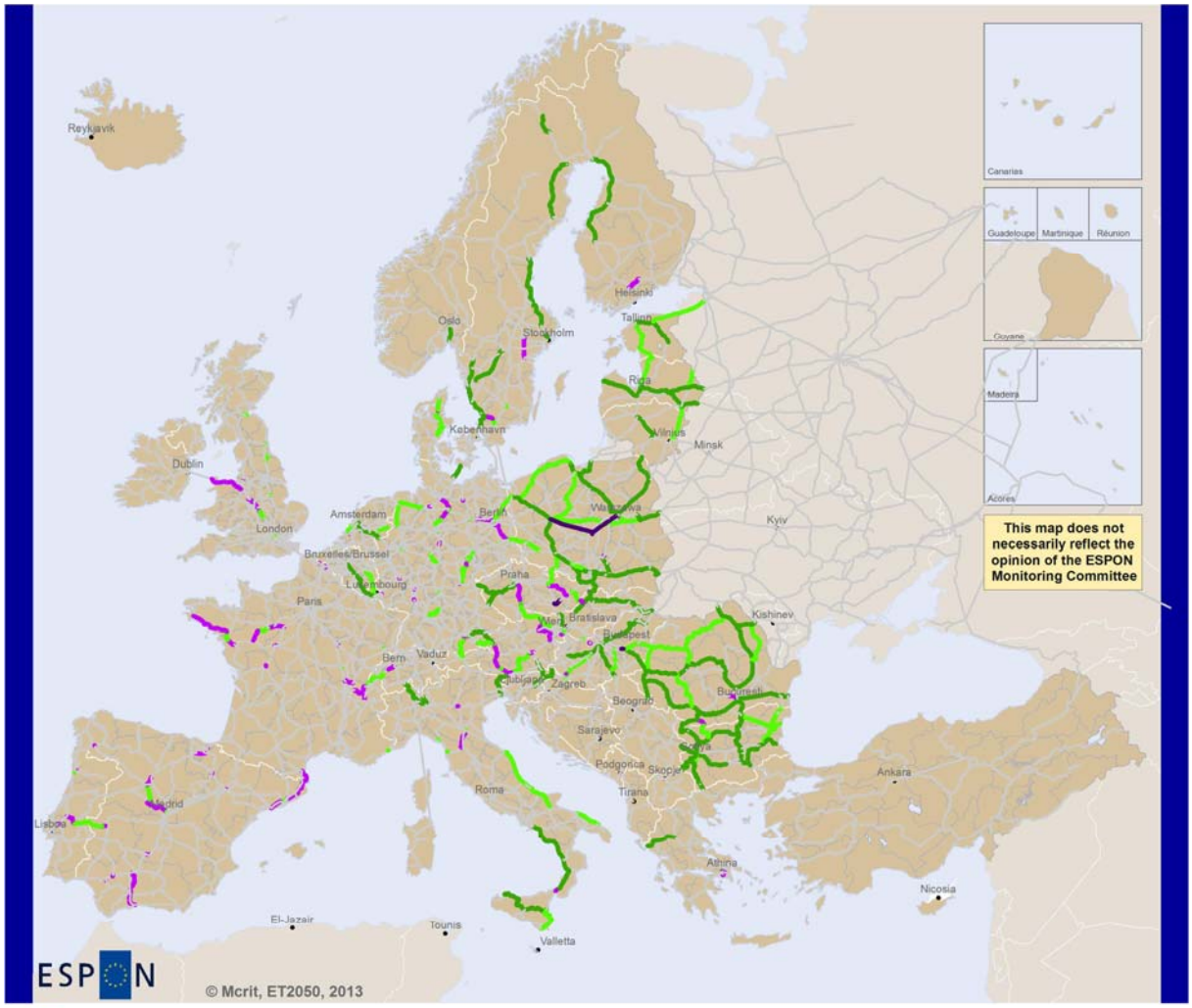
Regional level: NUTS 2
Source: Mcrit, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

Road network
TEN Core road projects
TEN Comprehensive road projects

The following maps show the implemented rail networks for the **Scenario C "REGIONS"** up 2030.

TEN infrastructure

Projects on the rail network



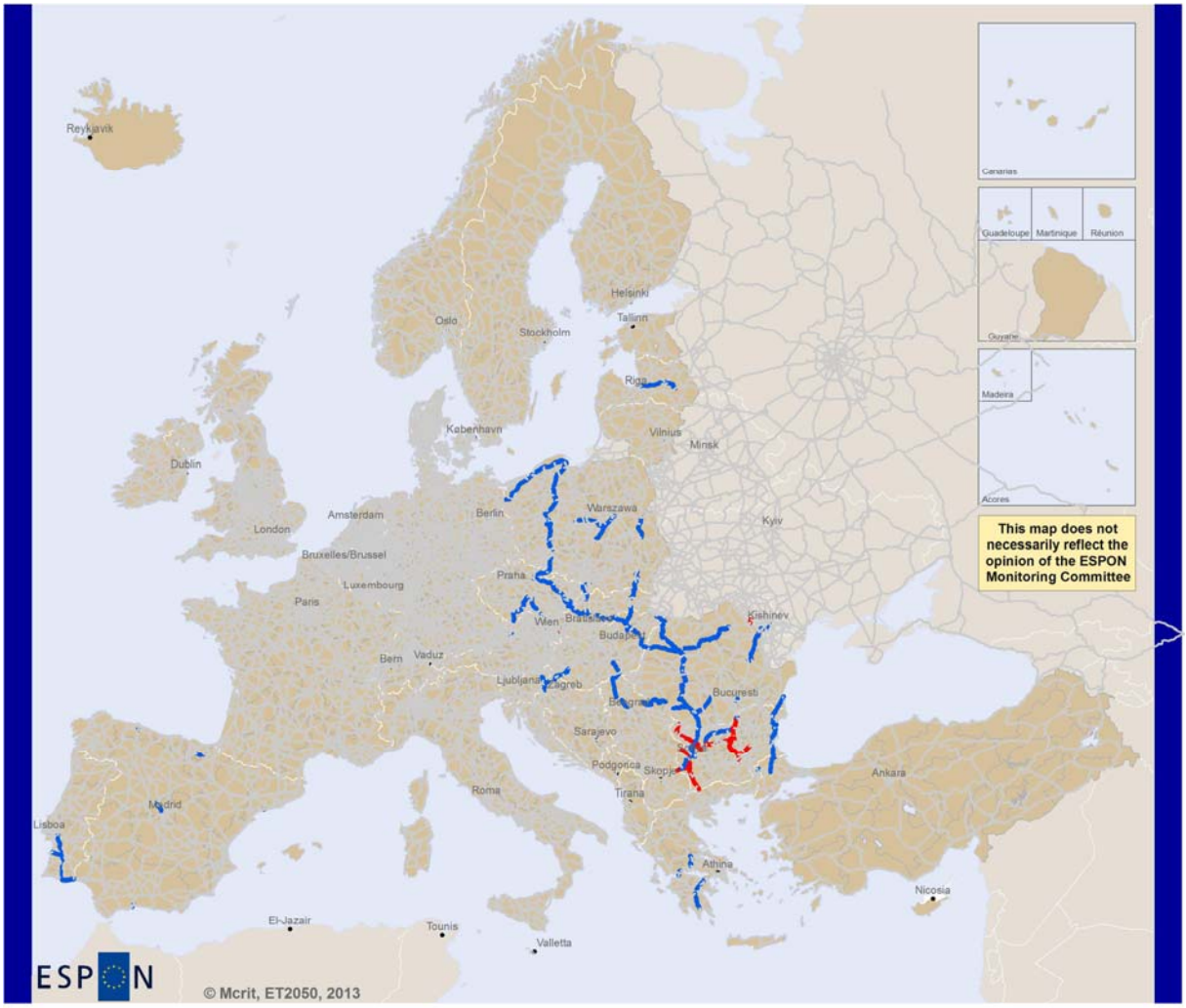
EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

Regional level: NUTS 2
Source: Mcrit, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

- Rail network
- TEN Core conventional projects
- TEN Comprehensive conventional projects
- TEN Core High speed projects
- TEN Comprehensive High speed projects

TEN infrastructure

Projects on the road network



EUROPEAN UNION
Part-financed by the European Regional Development Fund
INVESTING IN YOUR FUTURE

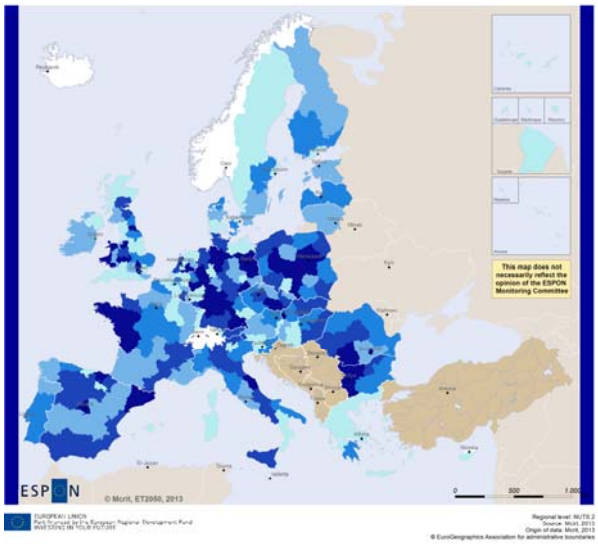
Regional level: NUTS 2
Source: Mcrit, 2013
Origin of data: Mcrit, 2013
© EuroGeographics Association for administrative boundaries

Road network
TEN Core road projects
TEN Comprehensive road projects

European Transport Investments 2013 - 2030

Measured as Investment per area (millions €/km2)

Baseline 2030

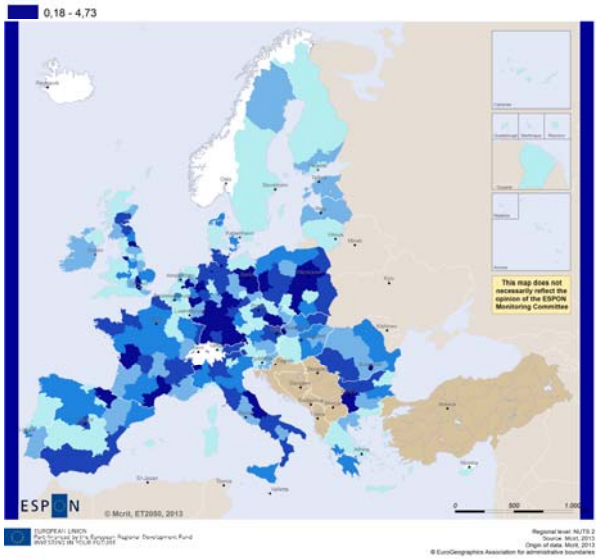


BASELINE 2030. Transport Investments in TENs (maintenance excluded)

Budget allocated to each NUTS2 represented in Million Euros per km2. Accumulated 2013-2030

- 0,00
- 0,01 - 0,03
- 0,04 - 0,08
- 0,09 - 0,17
- 0,18 - 4,73

Scenario A 2030

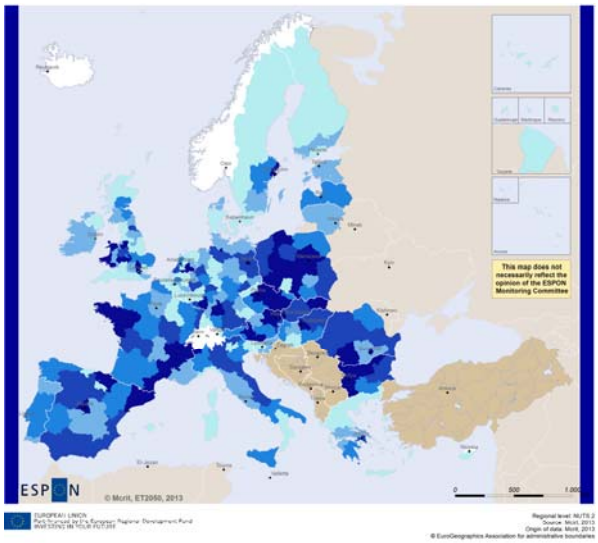


SCENARIO A 2030. Transport Investments in TENs (maintenance excluded)

Budget allocated to each NUTS2 represented in Million Euros per km2. Accumulated 2013-2030

- 0,00
- 0,01 - 0,05
- 0,06 - 0,09
- 0,10 - 0,19
- 0,20 - 4,57

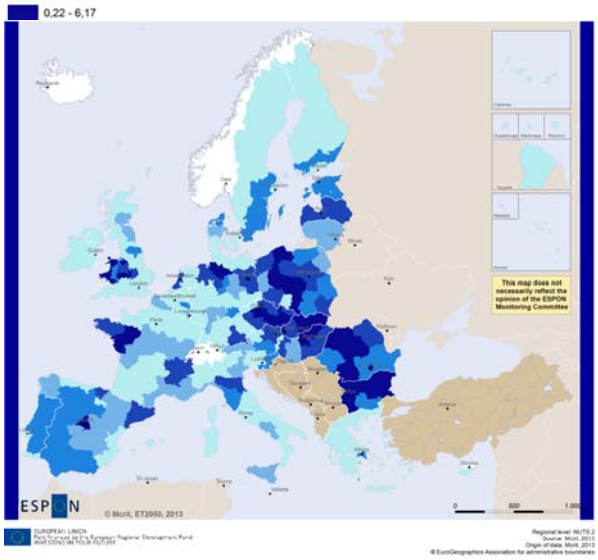
Scenario B 2030



SCENARIO B 2030. Transport Investments in TENs (maintenance excluded)
Budget allocated to each NUTS2 represented in Million Euros per km2. Accumulated 2013-2030

0,00
0,01 - 0,05
0,06 - 0,11
0,12 - 0,21
0,22 - 6,17

Scenario C 2030



SCENARIO C 2030. Transport Investments in TENs (maintenance excluded)
Budget allocated to each NUTS2 represented in Million Euros per km2. Accumulated 2013-2030

0,00
0,01 - 0,02
0,03 - 0,09
0,10 - 0,23
0,24 - 2,95

Figure Error! No hi ha text de l'estil especificat en el document.**-1 Transport Investments in the TENs 2013-2030 (at NUTS2 level)**

Allocation of transport investments at Regional and National level

The methodology to allocate transport investment budgets at regional and national in ET2050 scenarios is as follows.

- European-wide regional and national budgets are determined in each scenario based on the overall transport budget available (dependant on GDP growth and the % GDP spent in transport), and the share of this budget spent in regional and national infrastructure. The insides of this process are presented in previous chapters.

- The European-wide regional and national budget for transport infrastructure is distributed among countries proportionally to their GDP. This assumption takes into account that the budget for regional and national transport infrastructure is provided by the capacity of each national economy.

- National budgets are distributed among NUTS3 in each scenario according to the following criteria:

    - BASELINE: National and regional investments allocated based on regional GDP, population and surface

    - FLOWS: National and regional investments allocated based on regional GDP

    - CITIES: National and regional investments allocated based on regional population

    - REGIONS: National and regional investments allocated based on regional surface

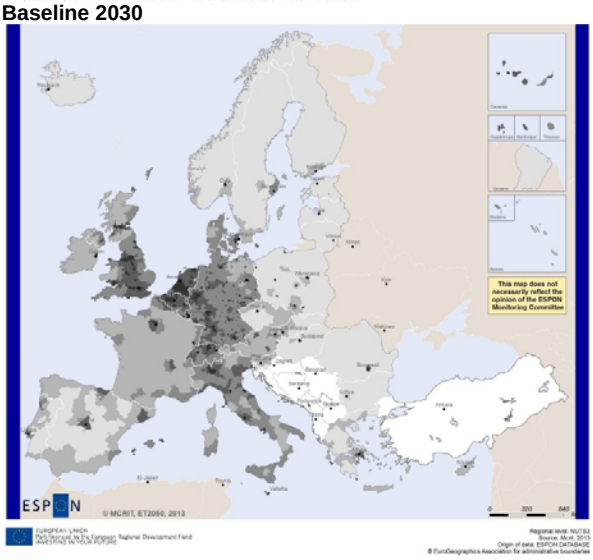
Country	BASELINE	FLOWS	CITIES	REGIONS
Austria	15,3	11,0	18,7	11,7
Belgium	18,7	13,4	22,8	14,3
Bulgaria	1,9	1,4	2,3	1,5
Switzerland	18,5	13,3	22,6	14,2
Cyprus	0,9	0,7	1,1	0,7
Czech Republic	8,0	5,7	9,8	6,1
Denmark	12,6	9,0	15,4	9,7
Germany	134,2	96,1	163,9	102,6
Estonia	0,9	0,6	1,1	0,7
Spain	58,8	42,2	71,9	45,0
Finland	10,0	7,2	12,2	7,6
France	105,4	75,5	128,7	80,6
Greece	12,8	9,2	15,7	9,8
Hungary	5,8	4,1	7,0	4,4
Ireland	9,7	7,0	11,9	7,4
Iceland	0,6	0,4	0,7	0,4
Italy	84,8	60,7	103,6	64,8
Liechtenstein	0,2	0,1	0,2	0,1
Lithuania	1,7	1,3	2,1	1,3
Luxembourg	2,1	1,5	2,6	1,6
Latvia	1,2	0,9	1,5	1,0
Malta	0,3	0,2	0,4	0,2
Netherlands	32,2	23,1	39,4	24,6
Norway	12,5	8,9	15,2	9,5
Poland	19,6	14,1	24,0	15,0
Portugal	9,3	6,7	11,4	7,1
Romania	7,6	5,4	9,2	5,8
Sweden	18,0	12,9	22,0	13,8
Slovenia	2,0	1,4	2,5	1,5
Slovak Republic	3,5	2,5	4,3	2,7
United Kingdom	98,2	70,3	119,9	75,0
ESPON	707,4	506,8	864,2	540,8

National and regional transport investment, per countries (in € 1000 million)

National Transport Investments 2013 - 2030

Measured as Investment per area (millions €/km2)

Baseline 2030

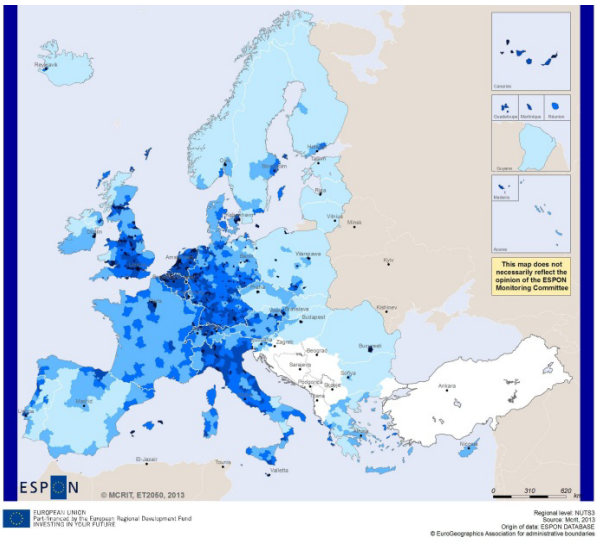


National Transport Investments (TENs and maintenance excluded)

Budget allocated to each NUTS3 represented in Million Euros per km2. Accumulated 2013 - 2030

- < 0,08
- 0,08 - 0,20
- 0,20 - 0,35
- 0,35 - 0,70
- > 0,70

Scenario A 2030



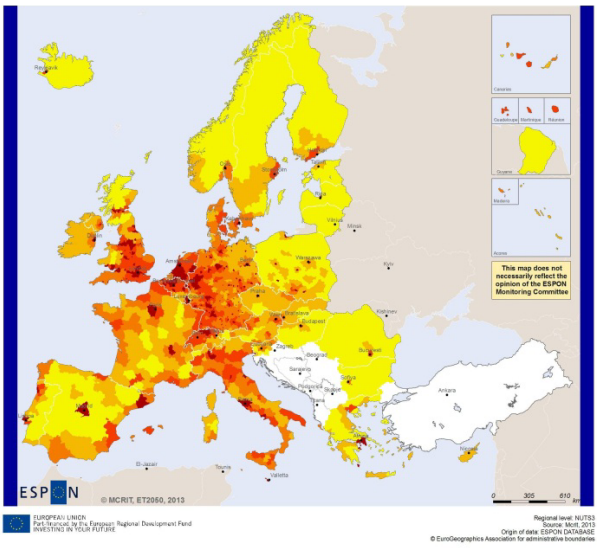
National Transport Investments (TENs and maintenance excluded)

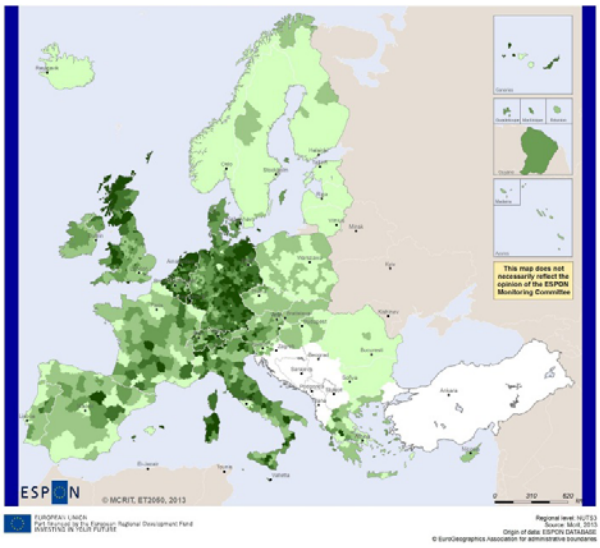
Budget allocated to each NUTS3 represented in Million Euros per km2. Accumulated 2013 - 2030

- < 0,06
- 0,06 - 0,12
- 0,12 - 0,22
- 0,22 - 0,62
- > 0,62

Scenario B 2030

Scenario C 2030





Transport Investments in the National Networks 2013-2030 (at NUTS3 level)

References

- "Trends in Transport Infrastructure Investment 1995-2009", Statistics Brief, Infrastructure Investment, International Transport Forum, July 2011. *http://www.internationaltransportforum.org/statistics/StatBrief/2011-07.pdf*

- "TEN-Invest - Transport Infrastructure Costs and Investments between 1996 and 2010 on the Trans-European Transport Network and its Connection to Neighbouring Regions, including an Inventory of the Technical Status of the

Transport-European Transport Network for the Year 2000", PLANCO Consulting GmbH and others for the EC DG Transport, 2003

- K.Böhme; "ERDF and CF Regional Expenditure", SWECO for the EC DG Regio, 2008

- "Ex post evaluation of cohesion policy programmes 2000-2006. Work package 5a: Transport. First intermediate report", Steer Davis Gleave for the EC DG Regio, 2009.

- "Ex Post Evaluation of Cohesion Policy Interventions 2000-2006 Financed by the Cohesion Fund (including former ISPA). Work Package A: Contribution to EU Transport and Environmental. Task 5 Contribution to the Development of the Trans European Transport Network", AECOM for the EC DG Regio, 2012

ET2050 Interim Report 2

ANNEX IV - Cohesion Policy Expenditures

Author: Spiekermann & Wegener

April 30th 2013

0. Introduction

The cohesion policy of the European Union dates back to the Treaty of Rome of 1957. Since then one of the main tasks of the Community has been to promote 'harmonious development of economic activities' and to reduce regional imbalances. In 1968 the Directorate-General for Regional Policy was established.

The first EU enlargement in 1973 (IRL, DK, UK) and the objective of an Economic and Monetary Union, made the Heads of State and Government decide in October 1972 to create a Regional Development Fund. In 1975 the first ERDF regulation entered with a budget of 1.4 million "units of accounts" for the years 1975 to 1977. Member States had to apply for ERDF support at project level. Decisions were taken by a committee of Member States based on Commission proposals. After the accession of Greece (1981) and Spain and Portugal (1986) the Structural Funds were integrated into an overarching cohesion policy introducing key principles: (i) focusing on the poorest and most backward regions, (ii) multi-annual programming, (iii) strategic orientation of investments and (iv) involvement of regional and local partners. In 1993 the Maastricht Treaty introduced three novelties: the Cohesion Fund, the Committee of the Regions and the principle of subsidiarity.

The Lisbon Strategy of 2000 shifted the EU's priorities towards growth, jobs and innovation. The priorities of cohesion policy were shifted to reflect this. Pre-accession instruments made funding and know-how available to countries waiting to join the EU. In 2004 ten new countries joined increasing the EU's population by 20%, but its GDP by only 5%. the budget of the Structural Funds in 2004-2006 was €213 billion for the 15 existing members and €22 billion for the new members.

For the period of 2007-2013 the budget was increased to: €347 billion with an even stronger focus on growth and jobs. Key investment areas are research and innovation, the Information Society, support for enterprises and workers, transport, energy, environment and climate change. health, culture, tourism, employment, social inclusions end education and training. These themes reflect the objectives of the Europe 2020 strategy to promote smart, sustainable and inclusive growth. Since the Treaty of Lisbon of 2007 the concept of cohesion was extend to include imbalances between regions or territorial cohesion.

Options for cohesion policy after 2014 are being discussed in the context of the Europe 2020 Strategy (European Commission, 2008; 2010; 2012; Barca, 2009; Assembly of European Regions, 2010). Legislative proposals for cohesion policy during 2014-2020 were adopted by the European Commission in October 2011 and will be discussed by the Council and European Parliament during 2012-2013.

This discussion note does not aim at presenting the history of Cohesion policy in the EU since its beginning. This was done in ET2050 Discussion Note 29 (Mcrit, 2012) appended to the ET2050 1st Interim Report. Here the focus is on the information necessary to agree on common assumptions about the EU Cohesion policy in the ET2050 Baseline Scenario and Exploratory Scenarios.

1. Eligibility

From a spatial point of view, the main differences between the different phases of cohesion policy are the changes in eligibility of regions for Structural Funds aid over time. Figures 1 to 4 show the eligibility criteria applied in the periods 1989-1993, 1994-1999, 2000-2006 and 2007-2013.

It can be seen that in the first years of eligibility of regions to receive aid from the Structural Funds depends on their position with respect to the major European goals Objective 1 (Convergence) and Objective 2 (Competitiveness). Objective 1 regions cover regions whose GDP per capita is below 75% of the EU average and aims at accelerating their economic development. Objective 2 regions are regions whose GDP per capita is between 75 and 90% of the EU average. In the early period the “cohesion countries” Ireland, Portugal, Spain, Italy and Greece are the main receiving countries (remarkably the countries which most suffered from the recent economic crisis). Special support was allocated to East Germany after its reunification with the Federal Republic.

In addition regions were eligible according to Objective 5b which includes disadvantaged regions with a high share of agricultural employment, a low level of agricultural income and a low population density or a significant depopulation trend or to Objective 6, which includes regions with very low population density.

Since 2007 eligible regions are classified as convergence regions (formerly Objective 1 regions) and competitiveness regions (formerly Objective 2 regions) plus two classes of regions expected to lose eligibility (phasing-out regions) or to move above the 75% threshold and receive competitiveness support (phasing-in regions).

A similar scheme is envisaged for the next period 2014-2020. Figure 5 shows the results of an “eligibility simulation” classifying regions either as less developed regions (below 75% of average GDP per capita), transition regions (75-90% of average GDP per capita) and more developed regions (above 90% of average GDP per capita). For the less developed regions the priorities are human and physical capital, innovation, knowledge society, environment and administrative efficiency. For the transition regions the aims is to reinforce competitiveness, employment and attractiveness, entrepreneurship and environment protection. Table 1 shows the main differences in eligibility between the 2007-2013 and 2014-2020 periods (European Commission, 2011).

For the future of EU Cohesion policy after 2013 the following tendencies are envisaged: It is expected that the current, though slow, process of reducing disparities between the European regions continues. That would mean that the number of regions eligible for Cohesion Fund support would be reduced.

That should be misunderstood in the sense that Cohesion policy will cease to be important. The gap between the poorest and richest regions in Europe is still enormous and is not likely to disappear even until 2050.

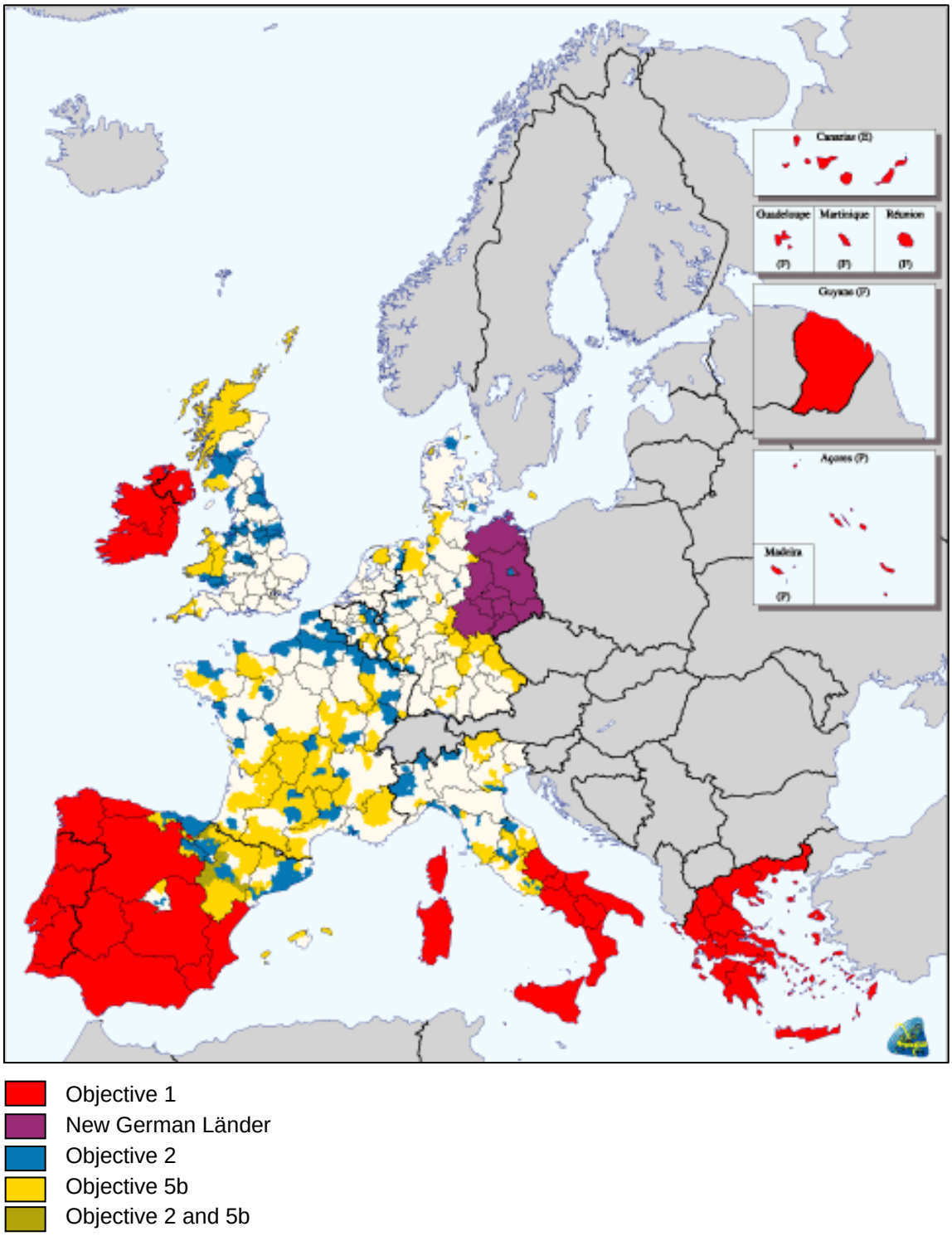


Figure 1. Eligible Structural Funds regions 1989-1993

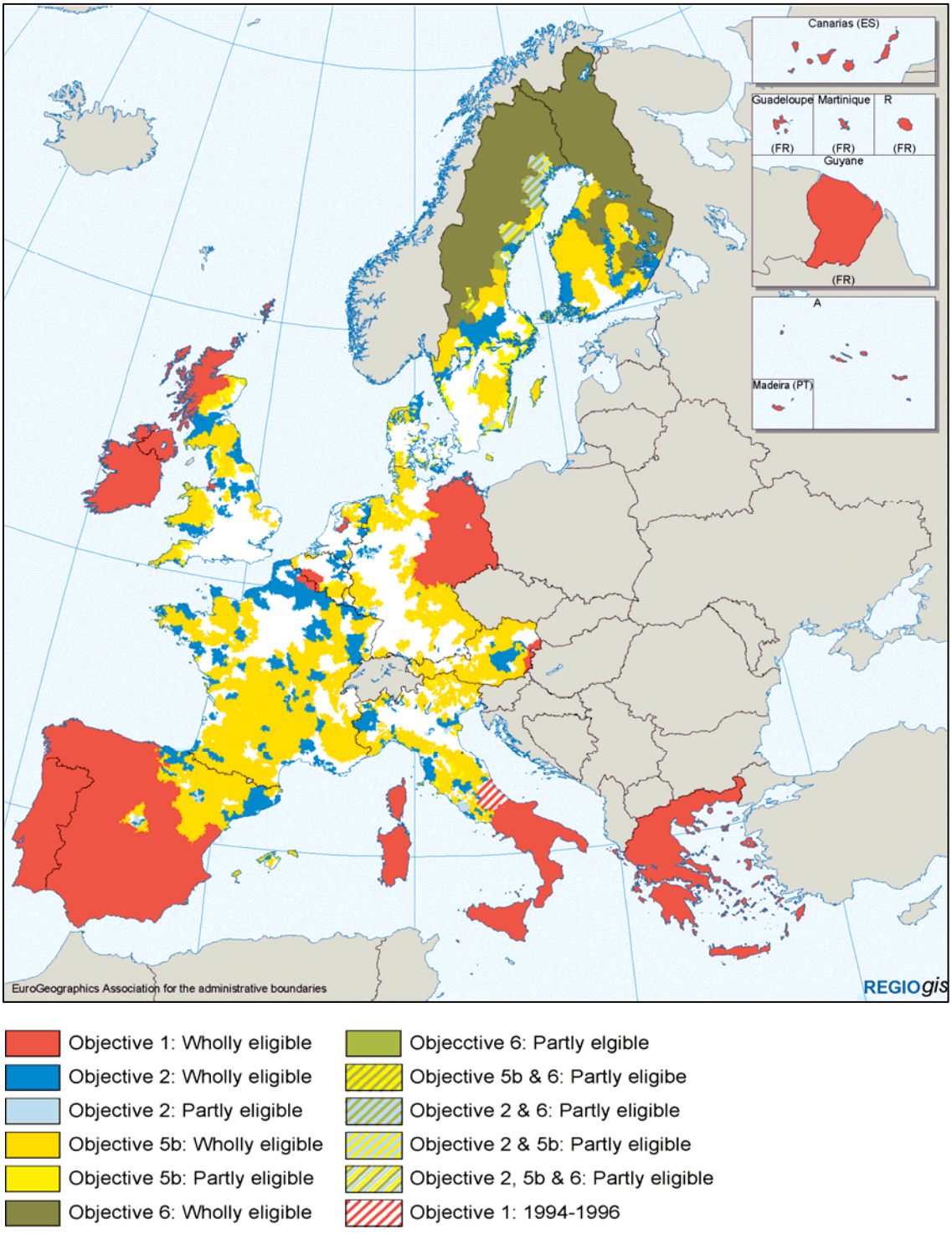


Figure 2. Eligible Structural Funds regions 1994-1999

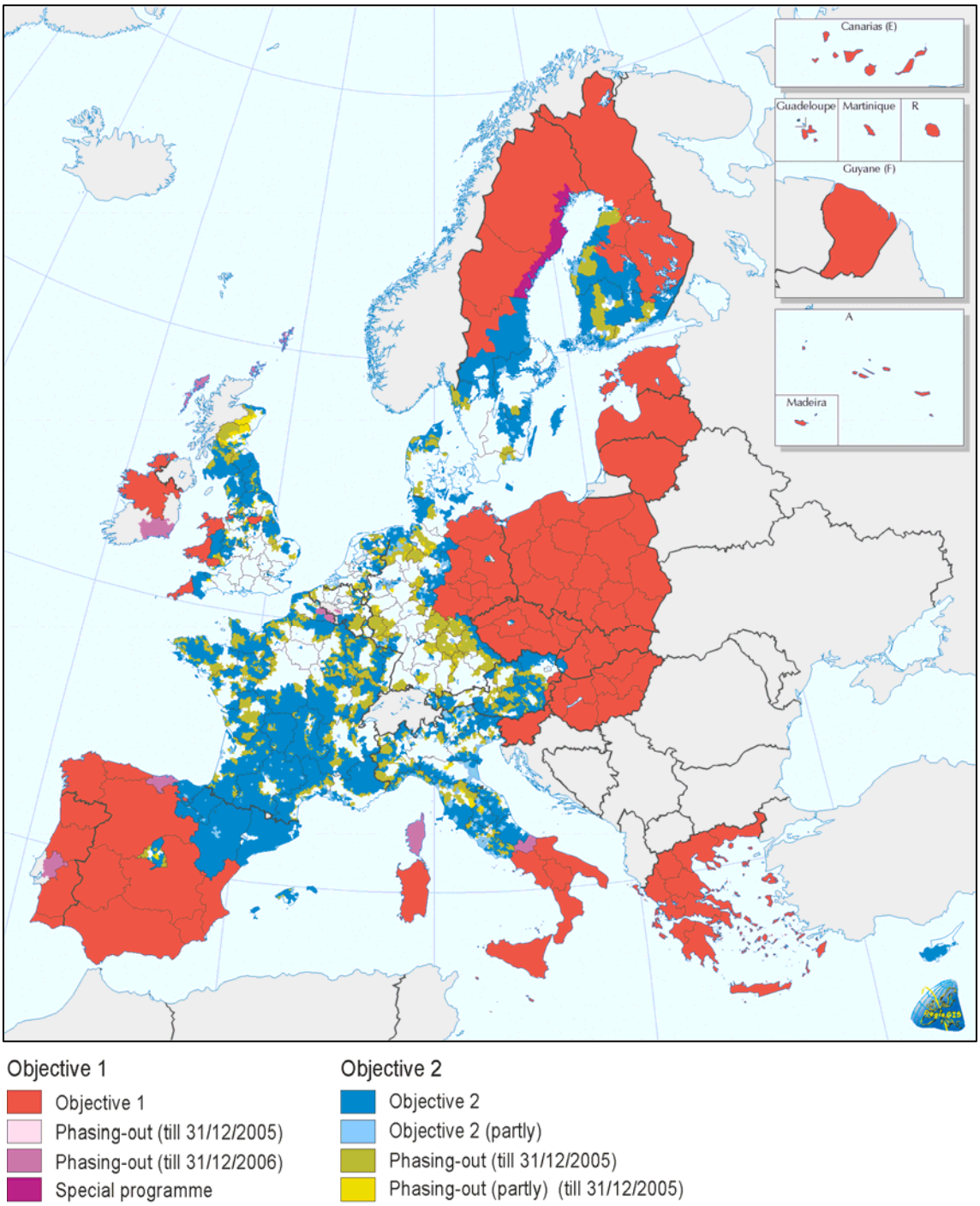


Figure 3. Eligible Structural Funds regions 2000-2006

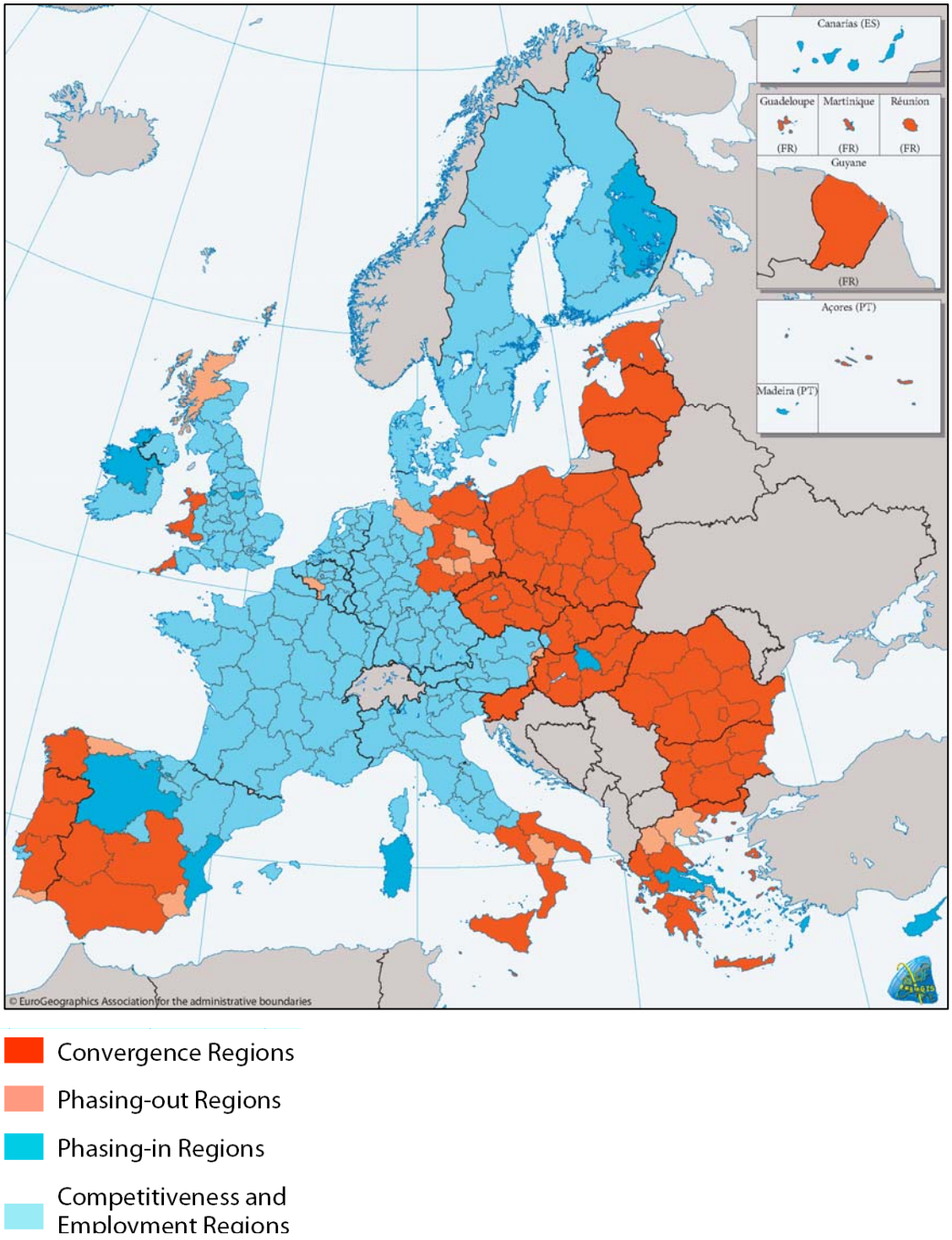


Figure 4. Eligible Structural Funds regions 2007-2013

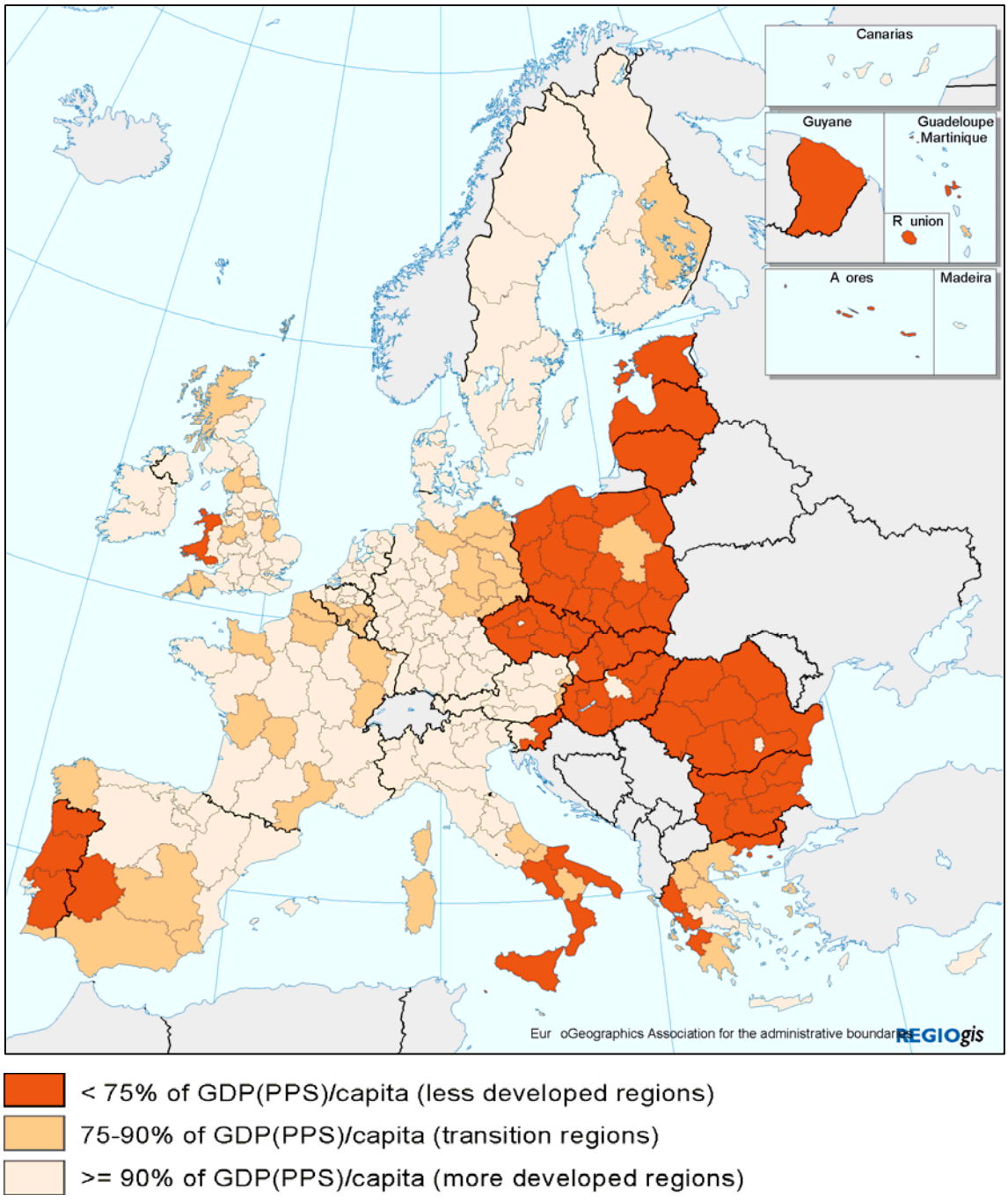


Figure 5. Eligibility simulation Structural Funds regions 2014-2020 (European Commission, 2011, 16)

Table 1. Changes in eligibility for Structural Funds from 2007-2013 to 2014-2020

Region type	2007-2013	2014-2020
Less developed regions	NUTS-2 regions whose GDP per capita is less than 75% of the EU average	No change
	Transitional support for regions which would have remained eligible for the convergence objective if the threshold remained 75% of the average GDP of EU-5 and not of EU-25	Separate category for transition regions
	Cohesion Fund: member states whose GNI per capita is less than 90% of the average GNI of EU-27	No change
	Transitional support to member states who would have been eligible for the Cohesion Fund if the threshold remained 90% of the average GNI of EU-15 and not of EU-27	Transitional support to member states eligible from the Cohesion Fund in 2013 but whose GNI per capita exceeds 90% of the average GNI per capita of EU-27
Transition regions	Transitional support for NUTS-2 regions which would have remained eligible for the convergence objective if the threshold remained 75% the the average GDP of EU-15 and not EU-25 (phasing-out)	NUTS-2 regions whose GDP per capita is between 75 and 90% of the average GDP of EU-27 with a differentiated treatment for regions which are eligible und the convergence objective in 2007-2013
	Transitional support for NUTS-2 regions which were covered by Objective 1 in 2000-2006 but whose GDP exceeded 75% of EU-15 GDP average (phasing-in)	
More developed regions	All NUTS-2 regions outside the convergence objective and not covered by the phasing-out transitional support	NUTS-2 regions whose GDP per capita is above 90% of the average GDP of EU-27 with a differentiated treatment of regions which are eligible under the convergence objective in 2007-2013.
	Transitional support for NUTS-2 regions which were covered by Objective 1 in 2000-2006 but whose GDP exceeds 75% of EU-15 GDP average (phasing-in)	

Source: European Commission, 2011, 15

2. Cohesion Policy Expenditures

Here the allocations of Cohesion policy expenditures in the present funding period 2007-2013 are presented as the point of departure for the assumptions of Cohesion policy funding in the Baseline Scenario and the Exploratory Scenarios.

Cohesion policy expenditures can be classified by type (objectives, funding sources, themes), by recipient member state and by recipient region.

2.1 Cohesion Policy Expenditures by Type

In the funding period 2007-2013 the total Cohesion policy expenditures amounts to 347 billion Euro at market prices, or 36 percent of the total EU budget.

Of these, 201 billion Euro or 58 percent are distributed through the European Regional Development Fund (ERDF), 76 billion Euro or 22 percent through the European Social Fund (ESF) and 70 billion Euro or 20 percent through the Cohesion Fund (CF).

With respect to objectives, the bulk of the total expenditures, 283 billion Euro or 81 percent, is devoted to the convergence objective (formerly Objective 1). However, this does not mean that all of this money goes to the regions classified as convergence regions (see Figure 4). Only the expenditures out of the Cohesion Fund are restricted to the convergence regions.55 billion Euro or 16 percent of the total are devoted to the competitiveness and employment objective (formerly Objective 2). These funds, too can be allocated to all types of regions. Finally, 9 billion Europe or 3 percent of the total are designated for territorial co-operation.

A final possible classification of Cohesion policy objectives is by theme. For the definition of the scenarios in ET2050 relevant themes make up three quarters of all Cohesion policy funds: business support with 70 billion Euro or 20 percent, research and innovation with 85 billion or 25 percent, transport with 82 billion Euro or 24 percent and urban development with 21 billion Euro or 6 percent.

Figure 6 on the following page shows the allocation of these funds by type, funding source and theme.

2.2 Cohesion Policy Expenditures by Member State

Table 2 shows the development of planned Cohesion policy expenditures over the current funding period 2007-2013 by receiving country (DG Regio, 2007). The subsequent Figure 7 shows the resulting trajectories for total expenditures per country, expenditures as percent of national GDP and expenditures per capita, all in Euros of the respective year.

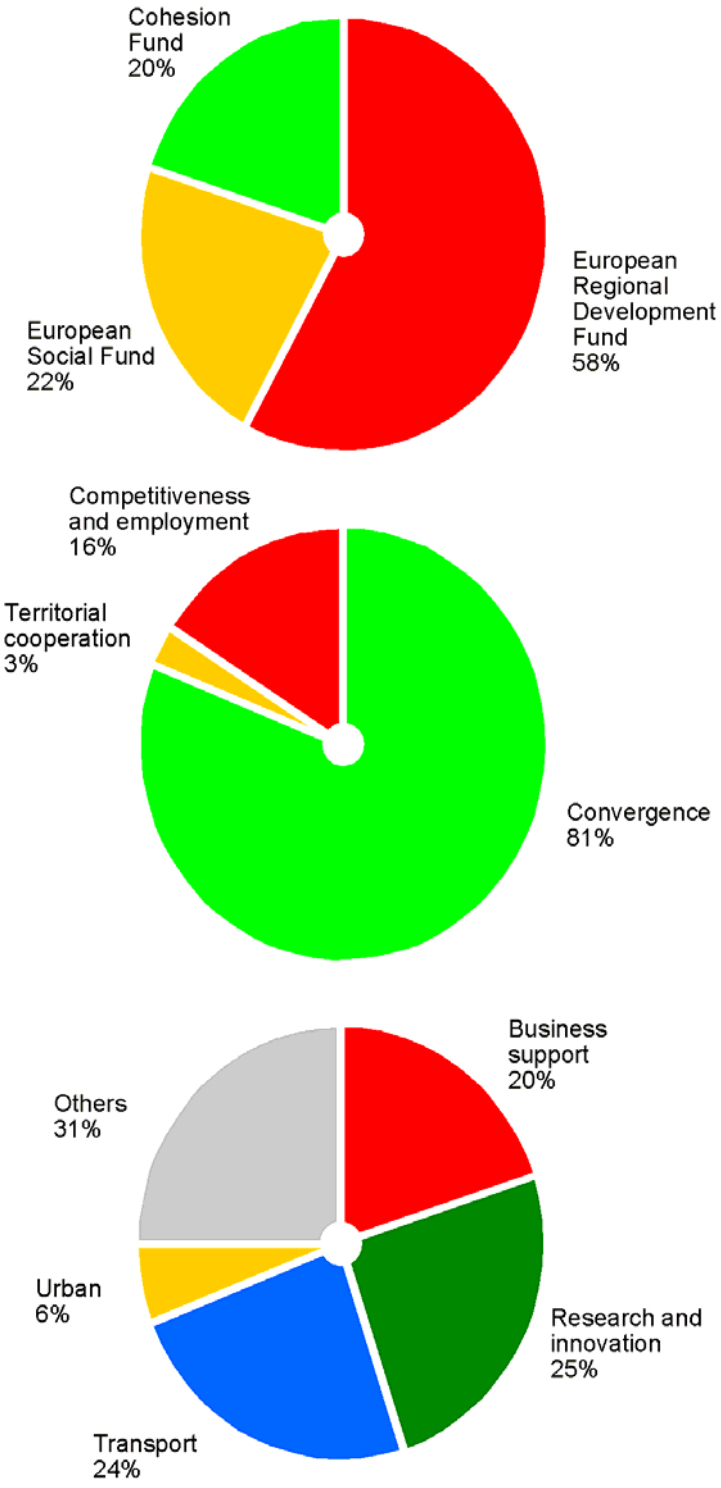


Figure 6. Cohesion policy expenditures by objectives, funding sources and themes (DG Regio, 2011).

Table 2. Cohesion policy expenditures 2007-2013 by country (1,000 Euro, current prices)

Country	2007	2008	2009	2010	2011	2012	2013	2007-2013
Austria	201,773	204,000	206,308	208,702	211,109	213,450	215,802	1,461,143
Belgium	366,756	353,109	338,863	324,002	308,411	291,967	274,742	2,257,851
Bulgaria	514,439	737,396	991,807	1,044,074	1,116,078	1,188,427	1,260,634	6,852,855
Cyprus	167,461	139,212	109,773	79,107	47,170	48,128	49,104	639,954
Czech Republic	3,319,590	3,479,810	3,640,861	3,809,477	3,978,226	4,146,329	4,317,361	26,691,656
Germany	3,664,754	3,696,945	3,729,709	3,763,070	3,796,273	3,828,503	3,860,503	26,339,757
Denmark	82,162	83,853	85,628	87,490	89,392	91,284	93,215	613,023
Estonia	376,531	409,975	446,441	486,202	530,029	577,833	628,833	3,455,842
Spain	6,295,188	5,754,627	5,190,295	4,713,798	4,445,328	4,421,932	4,395,823	35,216,991
Finland	263,006	257,566	251,850	245,851	239,511	232,769	225,662	1,716,215
France	1,922,675	1,961,675	2,002,023	2,043,767	2,086,381	2,129,290	2,173,869	14,318,892
Greece	3,085,468	3,027,319	2,965,710	2,900,528	2,831,552	2,814,193	2,795,007	20,419,777
Hungary	3,035,954	3,229,333	3,437,664	3,625,537	3,784,266	3,990,565	4,204,078	25,307,397
Ireland	211,628	180,726	148,540	115,030	80,120	81,799	83,512	901,355
Italy	4,003,583	4,035,090	4,066,775	4,098,643	4,130,160	4,202,150	4,275,368	28,811,769
Lithuania	767,740	833,414	902,450	975,205	1,052,169	1,134,997	1,219,009	6,884,984
Luxembourg	8,756	8,935	9,122	9,137	9,516	9,715	9,918	65,279
Latvia	508,252	554,226	603,898	655,705	709,400	765,396	823,567	4,620,443
Malta	114,475	117,159	119,795	122,608	125,072	127,158	129,092	855,359
Netherlands	255,620	260,877	266,388	272,165	278,067	283,940	289,937	1,906,994
Poland	8,129,584	8,664,529	9,213,687	9,441,367	10,023,359	10,605,030	11,206,694	67,284,250
Portugal	2,971,583	3,005,028	3,038,716	3,072,645	3,106,717	3,140,822	3,175,048	21,510,558
Romania	1,335,024	1,915,640	2,576,315	3,092,047	3,330,473	3,580,271	3,837,879	19,667,647
Sweden	253,909	259,066	264,410	269,947	275,599	281,283	287,085	1,891,299
Slovenia	554,582	569,326	584,456	599,981	615,895	632,185	648,881	4,205,305
Slovakia	1,299,789	1,407,176	1,526,146	1,662,256	1,785,126	1,906,826	2,000,586	11,587,904
United Kingdom	1,616,478	1,575,843	1,533,475	1,489,332	1,442,810	1,465,895	1,489,326	10,613,158
Interregional cooperation	46,390	49,483	54,889	62,744	70,891	76,995	83,316	444,708
Technical assistance	113,409	117,460	121,201	122,888	126,926	130,993	134,823	867,699
Total	**45,326,760**	**46,721,852**	**48,251,108**	**49,207,668**	**50,428,208**	**52,192,144**	**53,970,536**	**347,410,064**

Source: DG Regio (2007)

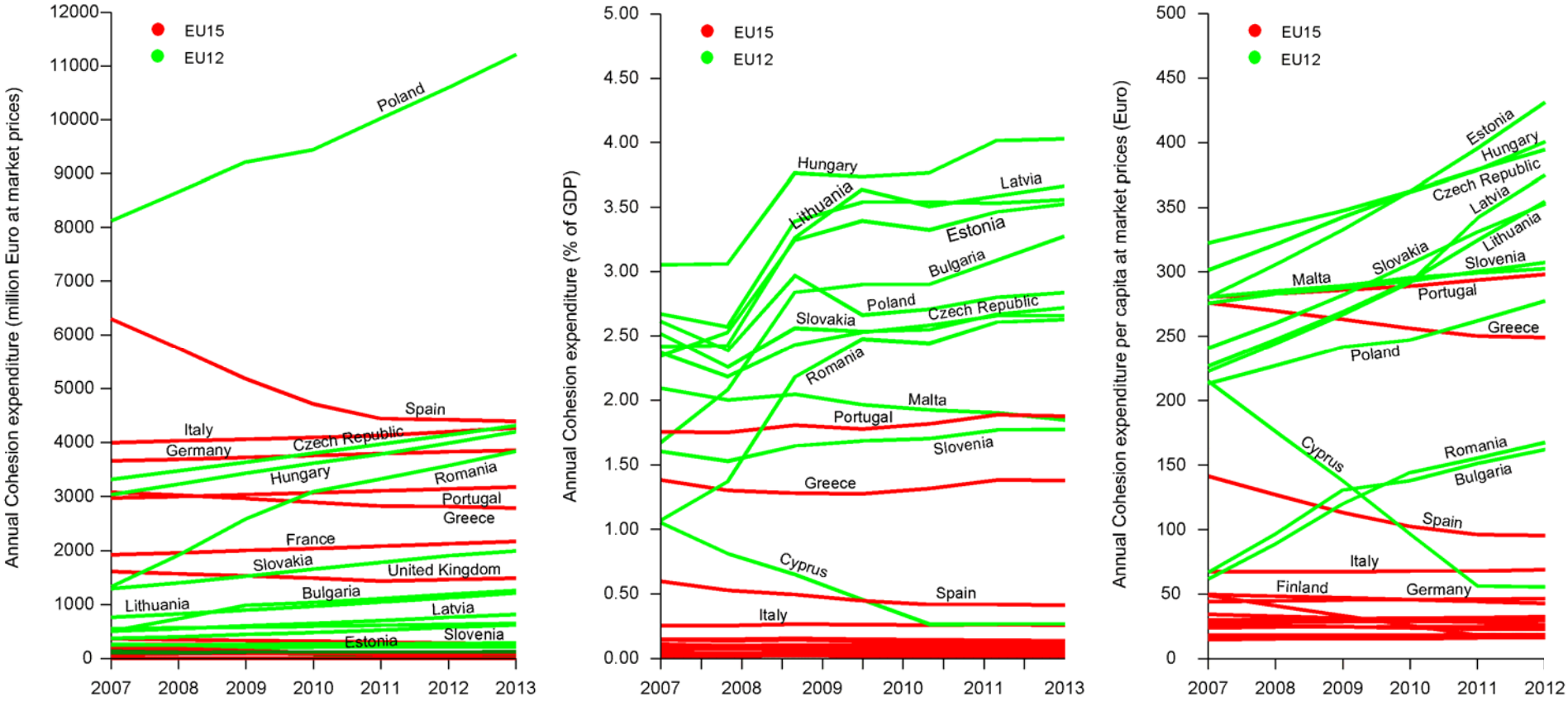


Figure 7. Cohesion policy expenditures by member state 2007-2013: total (left), in percent of GDP (middle) and per capita (right)

Based on the Cohesion policy expenditures by country in Table 2, it was examined whether the allocation of expenditures to countries follows a quantifiable principle that could be used for extend the allocations of funds into the future for the Baseline Scenario.

The hypothesis was that Cohesion policy expenditures are likely to have an inverse relationship with regional income of GDP per capita, i.e. that rich and prosperous regions will receive less Cohesion policy subsidies per capita than regions with lagging economies in order to assist them to catch up. To test this hypothesis the two scatter diagrams in Figures 8 and 9 were prepared. They show the correlation between GDP per capita and the Cohesion policy expenditures received by each county per year, as subsidies per capita in Figure 8 and as percent of national GDP in Figure 9. The two diagrams support the hypothesis, with important exceptions: the new member states Bulgaria and Romania receive significantly less subsidies than the hypothesis would suggest.

Heijman and Koch (2011) attempted to quantify the hypothesis by estímating a range of linear and nonlinear functions with Cohesion policy expenditures by country as dependent variable and regional population and regional income as independent or explanatory variables. Of these the linear function

$$A_i = 0.0078 + 2.82\,P_i - 2.03\,Y_i \qquad (1)$$

yielded the best result with $r^2 = 0.85$ as coefficient of determination between estimated and actual allocation of subsidies. In the equation, A_i is the annual Cohesion policy expenditure in country i, P_i is the population in that country in the same year, and Y_i is the total GDP in that country and year.

The application of the function to the 27 x 7 country expenditures resulted in the two scatter diagrams of Figures 10 and 11. One can see that the prediction is acceptable with $r^2 = 0.83$ in both cases, even considering the extreme cases Bulgaria and Romania.

The conclusion is that it is possible to continue the business-as-usual allocation of Cohesion expenditures into the future in the Baseline Scenario, even if the economy grows under the "sluggish-recovery" assumption.

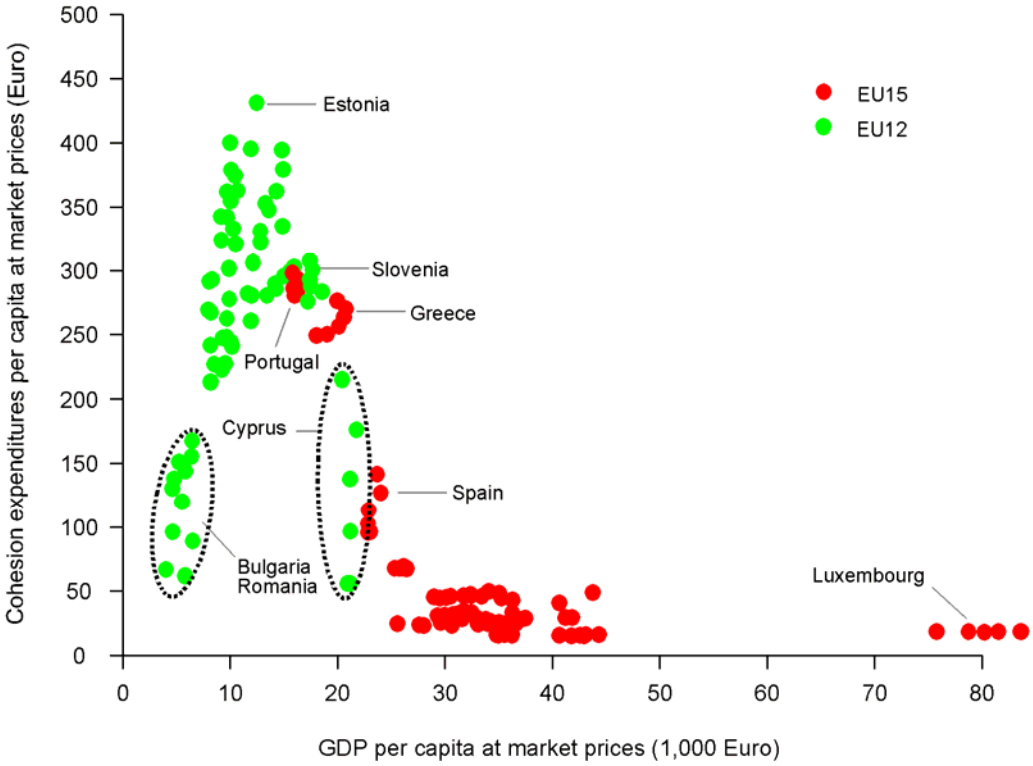


Figure 8. Cohesion policy expenditures 2007-2013 per capita v. GDP per capita.

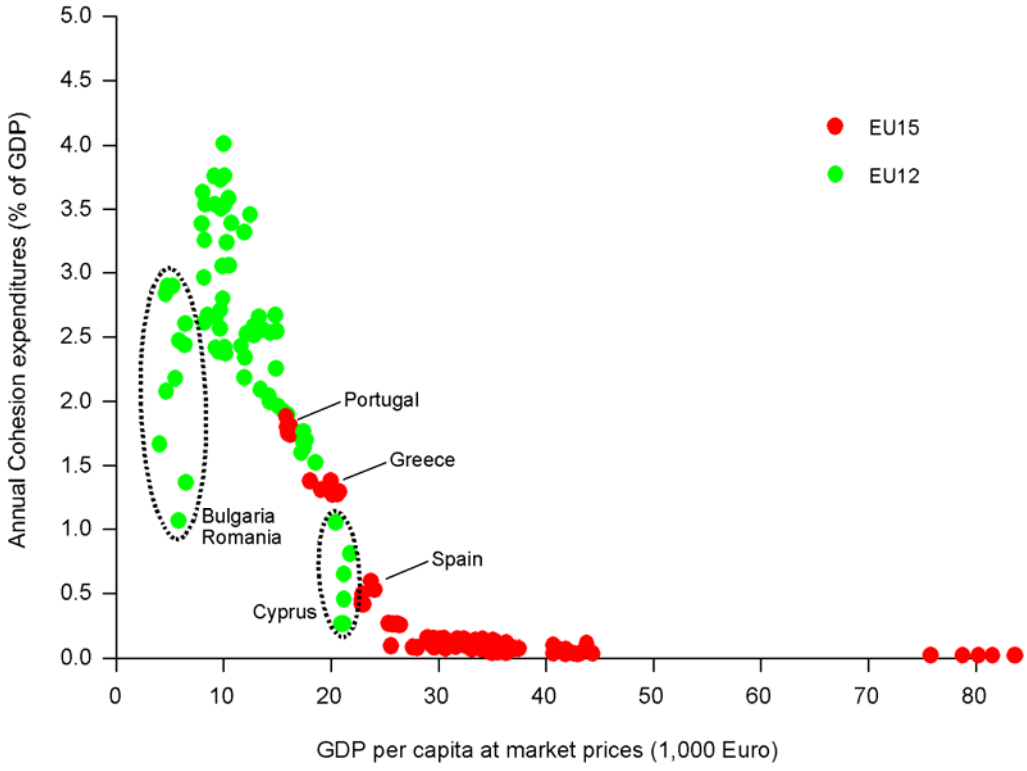


Figure 9. Cohesion policy expenditures 2007-2013 in % of GDP v. GDP per capita

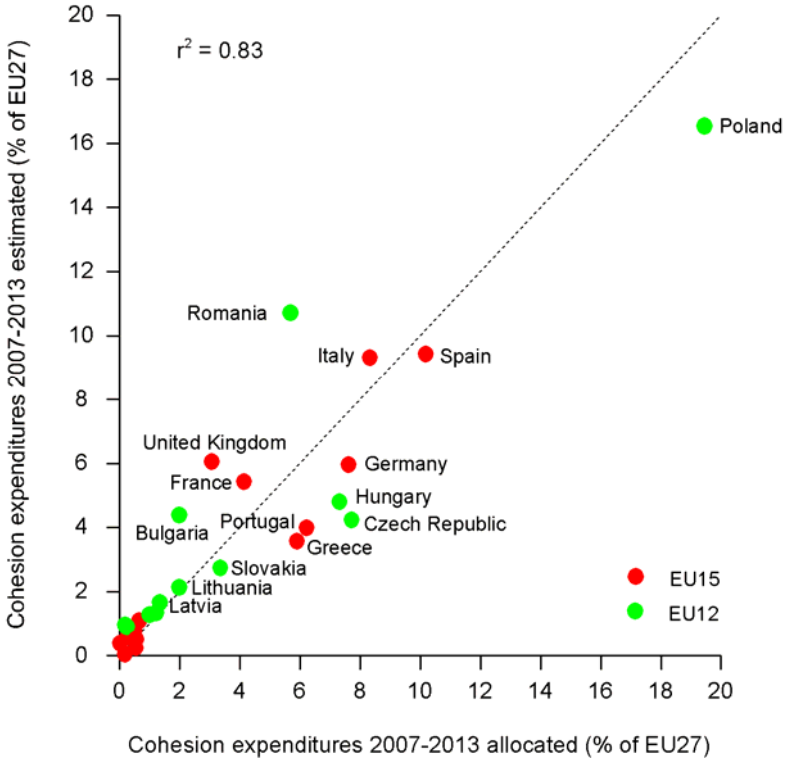


Figure 10. Cohesion policy expenditures 2007-2013 per capita estimated v. allocated

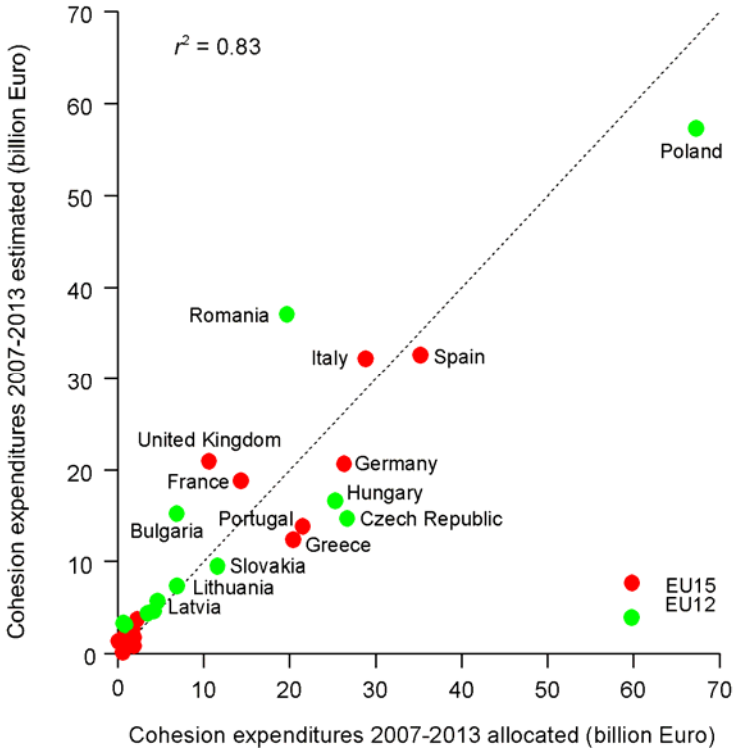


Figure 11. Cohesion policy expenditures 2007-2013 in % of GDP estimated v. allocated

2.3 Cohesion Policy Expenditures by NUTS-2 Region

Thanks to Cohesion expenditures by NUTS-2 region made available by Ugo Fratesi, it was possible to analyse the allocation of Cohesion expenditures also at the level of NUTS-2 regions.

Figures 12 and 13 show the allocation of Cohesion expenditures to NUTS-2 regions per capita and in percent of regional GDP, respectively. Again the inverse relationship between subsidies and regional income becomes visible, with the same exceptions in the allocations of funds to the new member states. Remarkably, the eligibility classification into convergence and competitiveness and employment regions does not seem to make much difference as there is a smooth transition between the two types of regions, i.e. GDP per capita is a better predictor than eligibility.

Like with the expenditures by country data, an attempt was made to estimate the actual allocations as a function of GDP and population, here in the form of GDP per capita.

The function used to estimate the Cohesion policy expenditures of NUTS-2 regions as a function of regional GDP per capita were

$$a_i = 20.0 \cdot \exp\left[-0.3\left(y_i - 14.0\right)\right] \cdot 425.0 \quad (2)$$

$$b_i = \exp\left[-0.15\left(y_i - 11.5\right)\right] \cdot 3.0 \quad (3)$$

where a_i is Cohesion expenditures per capita, b_i Cohesion expenditure as percent of GDP and y_i GDP per capita in region i. To prevent that the regions with the lowest GDP per capita receive excessive amounts of money, the two functions had to be capped at 425 Euro per capita and at 7.5 percent of GDP, respectively. The two estimation functions are shown in Figures 12 and 13 as dotted black lines.

Figures 14 and 15 show the goodness of fit of the two estimations. With r^2 = 0.73 the result is acceptable considering the outlyer regions in the new member states. The estimation of Cohesion policy expenditures as percent of regional GDP is even better with r^2 = 0.88.

Like in the country case, the conclusion is that it is possible to continue the business-as-usual allocation of Cohesion expenditures into the future in the Baseline Scenario, even if the economy grows under the "sluggish-recovery" assumption.

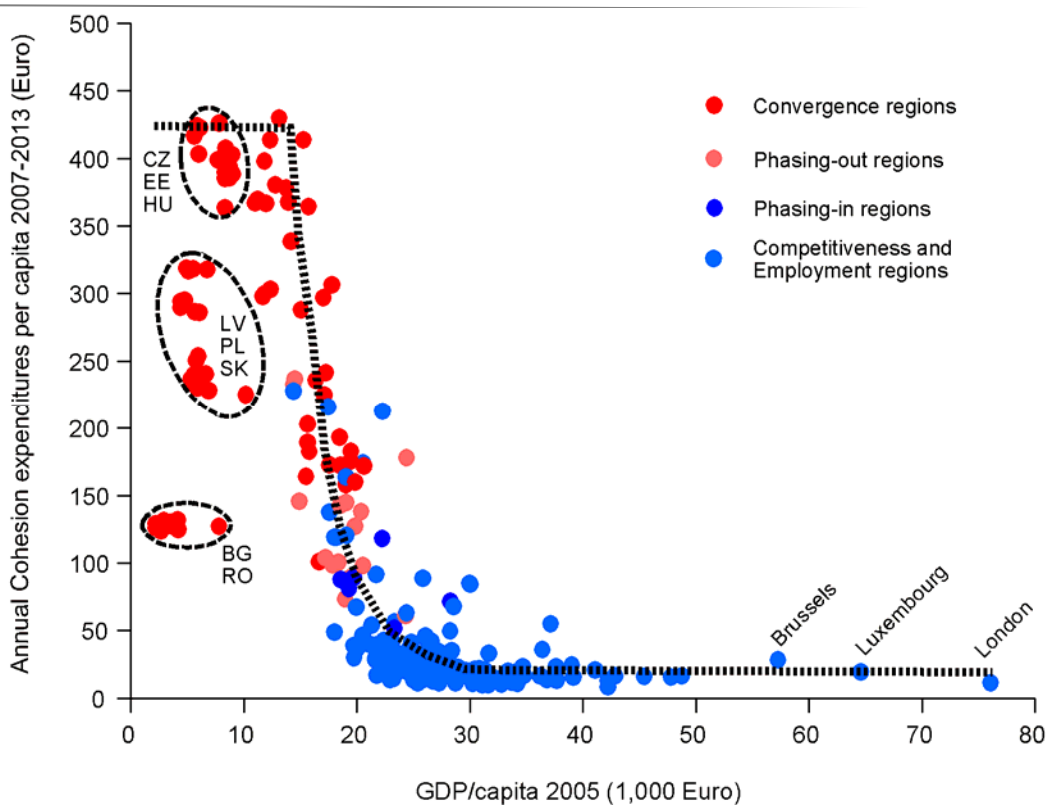


Figure 12. Cohesion expenditures per capita of regions v. GDP per capita.

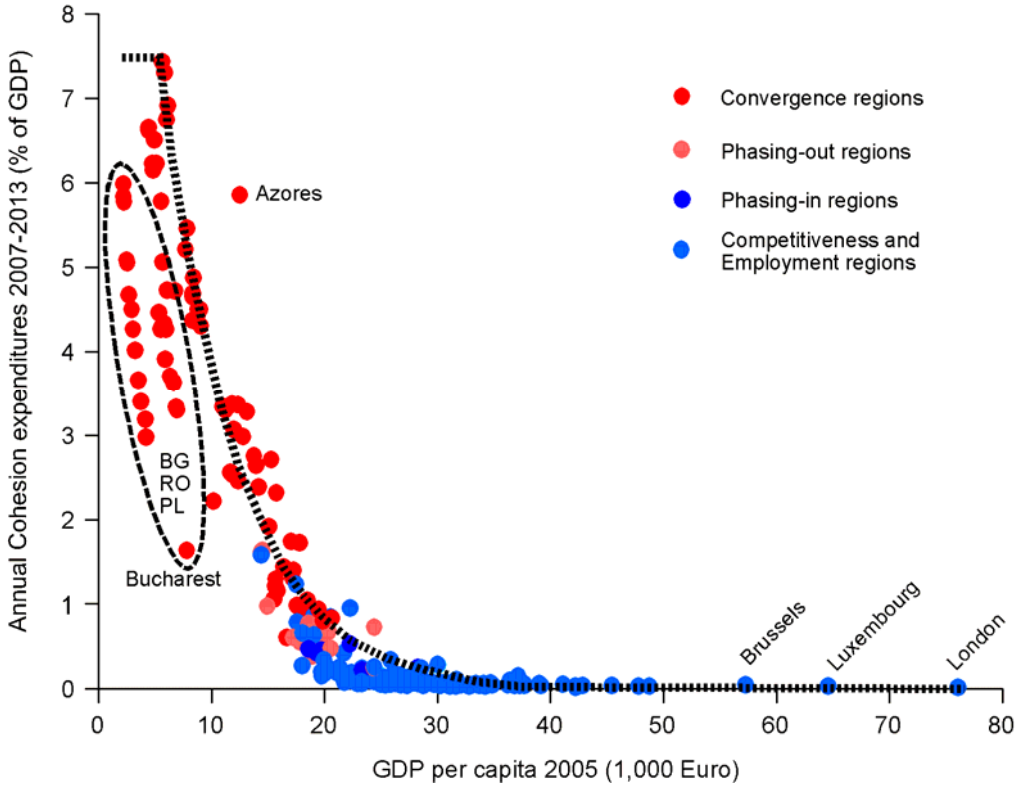


Figure 13. Cohesion expenditures of regions as % of GDP v. GDP per capita

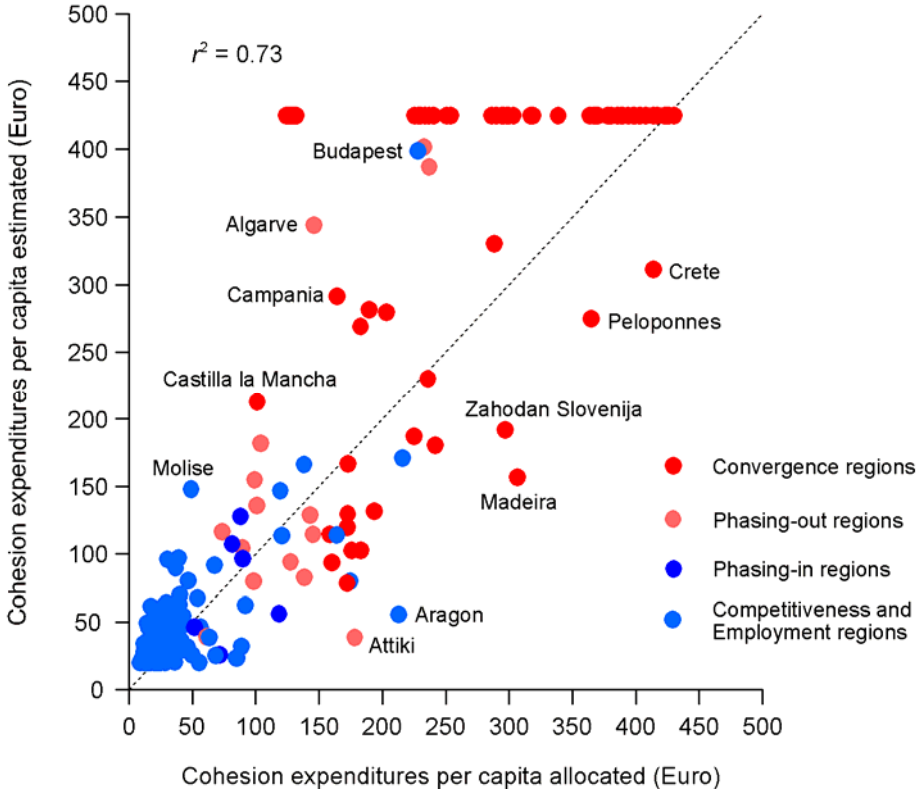


Figure 14. Cohesion expenditures per capita of regions estimated v. allocated

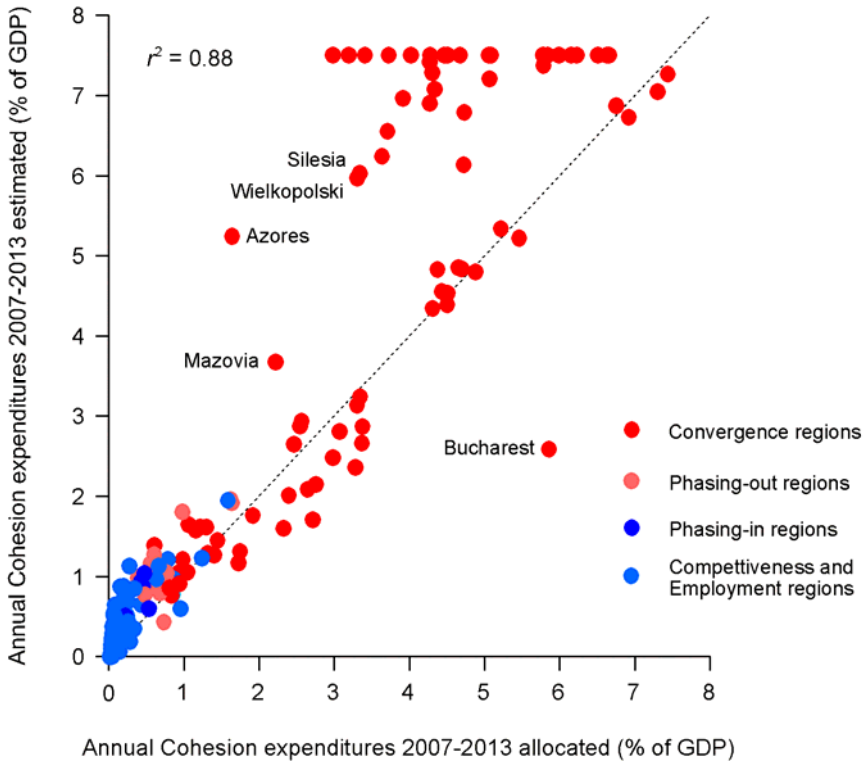


Figure 15. Cohesion expenditures as % of GDP of regions v. GDP per capita

3. Scenario Assumptions

In this section a proposal is made for common assumptions about the EU Cohesion policy in the ET2050 Baseline Scenario and Exploratory Scenarios..

In the Appendix to the Revised 1st Interim Report the following assumptions about the EU Cohesion policy are proposed:

- *Baseline Scenario*: Budged maintained. Limited and gradual reforms favouring efficiency with no major political change
- *Scenario A*: Budget reduced. Territorial cross-border cooperation reinforced, as well as with neighbouring countries and rest of the world.
- *Scenario B*: Budget maintained. Thematic objectives redefined favouring urban-oriented policies and innovative urban actions..
- *Scenario C*: Budget significantly increased. Integrated territorial investments and community-led local development reinforced.

Based on these proposed assumptions, it is proposed that the assumptions about the EU Cohesion policy in the three scenarios are made in two steps. First agreement should be reached about the total volume of Cohesion policy expenditures and second agreement should be reached about the way of allocating these volumes across NUTS-2 regions.

3.1 Assumptions about Total Cohesion Policy Expenditures

First, it is proposed that no separate assumptions are made about the volumes of the three funds of the EU Cohesion policy, the European Regional Development Fund (ERDF), the European Social Fund (ESF) and the Cohesion Fund (CF). Second, it is proposed that total Cohesion policy expenditures (ERDF, SFF and CF) are linked to total EU27 GDP in real terms, i.e. are estimated as a percentage of total EU real GDP. Third, it is proposed that the assumption "budget maintained" made for the Baseline Scenario and Exploratory Scenario B means that the percentage of Cohesion policy expenditures of total EU27 real GDP (0.4% in 2010) remains constant. This assumption yields the proposed development of EU Cohesion policy expenditures numbers in the third column of Table 3. The second column of the table was taken from the total EU27 real GDP proposed in the Discussion Note "Proposal for Baseline Scenario" (S&W, 2012, 8).

The fourth, fifth and sixth columns of Table 3 are proposed assumptions for total EU Cohesion expenditures in Exploratory Scenarios A, B and C. In Scenario A it is assumed that total EU Cohesion expenditures remain constant in nominal terms, i.e. are almost halved compared to the Baseline Scenario. Total expenditures in Scenario B are the same as in the Baseline Scenario. Expenditures in Scenario C assume that expenditures grow annually by 5 percent, i.e. grow almost three times as fast as in the Baseline Scenario. Figure 16 shows these assumptions in graphical form.

Table 3. Proposed Cohesion policy expenditures in ET2050 Scenarios

Year	HICP (2010 =100)	GDP (billion € of 2010)	Cohesion policy expenditures (billion €)			
			Baseline Scenario	Scenario A	Scenario B	Scenario C
1995	63.92	10,994				
1996	66.00	10,743				
1997	70.89	11,002				
1998	74.15	11,017				
1999	76.28	11,257				
2000	78.87	11,668				
2001	81.82	11,718				
2002	83.59	11,899				
2003	85.22	11,861				
2004	87.39	12,141				
2005	89.26	12,391				
2006	91.56	12,773				
2007	93.54	13,254	48.5	48.5	48.5	48.5
2008	97.51	12,785	47.9	47.9	47.9	47.9
2009	98.13	11,969	49.2	49.2	49.2	49.2
2010	100.00	12,256	49.2	49.2	49.2	49.2
2015		13,571	54.5	49.2	54.5	62.8
2020		14,749	59.2	49.2	59.2	80.2
2025		16,023	64.3	49.2	64.3	102.3
2030		17,298	69.5	49.2	69.5	130.6
2035		18,543	74.5	49.2	74.5	166.6
2040		19,875	79.8	49.2	79.8	212.7
2045		21,285	85.5	49.2	85.5	271.4
2050		22,769	91.4	49.2	91.4	346.4

:

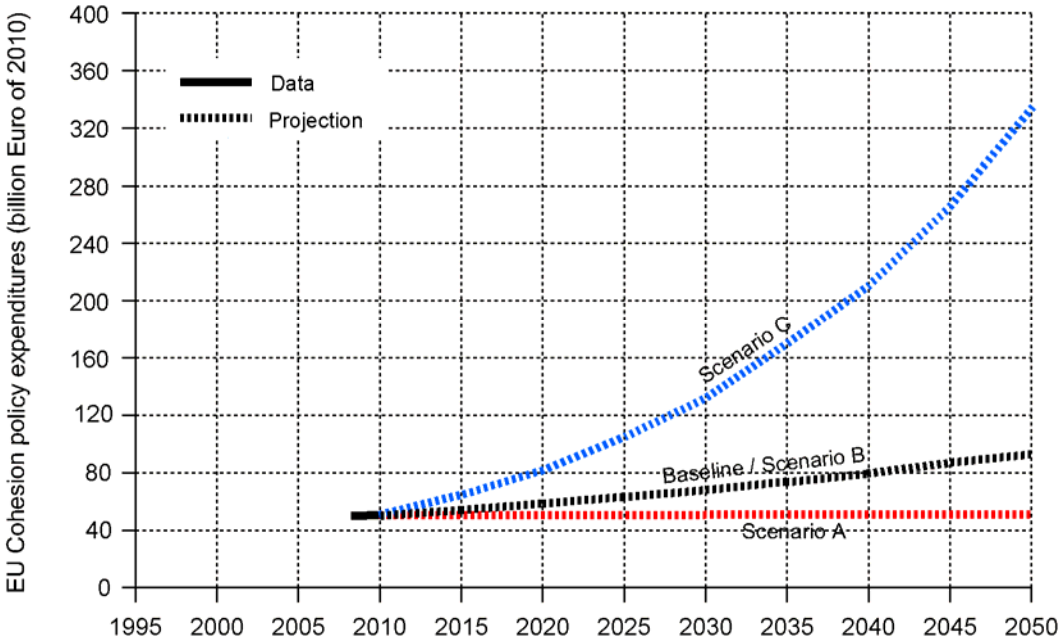


Figure 16. Proposed total Cohesion expenditures in the ET2050 scenarios

3.2 Assumptions about Cohesion Policy Expenditures by NUTS-2 Region

In a second step the total EU Cohesion policy expenditures are allocated to NUTS-2 regions (and in the SASI model further disaggregated to NUTS-3 regions),

The analysis of the actual allocations in Section 2 of this discussion note has shown that the classification of regions by eligibility gives only little information on the actual allocation of subsidies. Moreover, to use the eligibility classification for the allocation of funds would require to separately consider ERDF, ESF and CF expenditures. It has also become apparent that a per-capita allocation of funds to eligible regions would ignore the vast differences in actual allocation between poor and rich regions.

It will therefore be necessary to distribute the assumed total EU Cohesion expenditures for each year of the scenarios (see Section 3.1) according to some principle:

- For the Baseline Scenario, which aims at continuing the present principles of allocation, that would mean to use either a linear function of regional population and GDP to forecast regional expenditure (as in Equation 1) or a nonlinear function of GDP per capita as in Equations 2 and 3 to forecast per capita expenditure or expenditure as percent of regional GDP.
- For the Exploratory Scenarios adjustments to the allocation principles used in the Baseline Scenario reflecting the specific orientations of the Exploratory Scenarios will have to be made. For instance, the allocation of funds to the selected metropolitan areas, cities or regions could be increased by a factor of two or three at the expense of the other cities or regions.
- Similar adjustments could be made for the variants of the Exploratory Scenarios.

In a final step the regional allocations so derived will have to be scaled such that their total matches the assumed total expenditures assumed.

Details of the allocation rules in the Baseline Scenario and the Exploratory Scenarios need further discussion. It will also further need to be discussed how the shifts in the focus of EU Cohesion policy proposed in the Revised Interim Report towards cross-border and international co-operation (Scenario A), innovative urban actions (Scenario B) and community-led local development (Scenario C) contribute to distinct spatial configurations as they are envisaged for the Exploratory Scenarios and how they can be translated into Cohesion policy expenditures.

Because of this continuing need for discussion, it would therefore be desirable if the project partners, and in particular the project partners involved in regional modelling, would respond to this note with their comments and opinions.

References

Assembly of European Regions (20010): White Paper on Future of Cohesion Policy: Towards a Territorially-Based Policy for all Europeans? Strasbourg: AER. http://www.interact-eu.net/downloads/3141/Assembly_of_European_Regions___White_Paper_on_Future_of_Cohesion_Policy_.pdf

Barca, F. (2009): An Agenda for a Reformed Cohesion Policy: A place-Based Approach to Meeting European Union Challenges and Expectations. Brussels: DG Regional Policy.. http://www.interact-eu.net/downloads/1224/An_Agenda_for_a_Reformed_Cohesion_Policy.pdf

European Commission (2008): Green Paper on Territorial Cohesion Turning Territorial Diversity into Strength. Brussels DG Regional Policy. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0616:FIN:EN:PDF

European Commission (2010): Investing in Europe's Future. Fifth Report on Economic, Social and Territorial Cohesion. Luxembourg: Publications Office of the European Union. http://ec.europa.eu/regional_policy/sources/docoffic/official/repor_en.htm

European Commission (2011): Cohesion Policy 2014-2020: Investing in Growth and Jobs. Luxembourg: Publications Office of the European Union, 2011. http://ec.europa.eu/regional_policy/sources/docoffic/official/regulation/pdf/2014/proposals/regulation 2014_leaflet_en.pdf

European Commission (2012): Europe 2020: A European Strategy for Smart, Sustainable and Inclusive Growth. http://www.interact-eu.net/downloads/2409/Europe_2020__A_European_strategy_for_smart,_sustainable_and_inclusive_growth.pdf

Heijman, W., Koch, T. (2011) The allocation of financial resources of the EU Structural Funds and Cohesion Fund during the period 2007-2013. Agric. Econ. – Czech, 57, 2011 (2), 49-56.

Mcrit (2012): Review of European Sectoral Policies. ET2050 Discussion Note 29. Barcelona: Mcrit. http:// http://www.et2050.eu/europe_2050/TechNotes/ET2050_DiscNote29_EUPolicies.zip

S&W (2012): Proposal for the Baseline Scenario. ET2050 Discussion Note 30. http://www.et2050.eu/europe_2050/meetings/aalborgJune12/ET2050_DiscNote30_Proposal_for_Baseline_Scenario_MWegener_(v070612).doc

ET2050 Interim Report 2

ANNEX V - The VISION: Issues at stake

Author: IGEAT

April 30th 2013

ESPON – ET 2050

The VISION: Issues at stake

Full Report

IGEAT – ULB

Contents

1.

INTRODUCTION

This report aims at defining what is currently at stake as common values and issues in the development of the Vision for Europe currently under discussion in the ET 2050 project.

In a context of crisis, many nations in the world are trying to envision what will be their future development, and especially how they will face and manage crucial issues such as energy scarcity, climate change, demographic change and economic growth. America 2050 is a good example of this:

> "*The America 2050 Strategy will provide a framework for the public and private policies and investments needed to accommodate the nation's growth in the 21st century. This framework is urgently needed in a time of rapid technological, geopolitical, demographic, and environmental change. (…) This framework will promote integrated investments in mobility, environment, and economic development that are needed to guide the nation's growth in the 21st century. It will provide capacity for growth by creating a world-class multimodal transportation system of new smart highways, high-speed rail, airports, and seaports, all of these linked to concentrated developments at central hubs. It will preserve large environmental (or "green infrastructure") systems, strengthen metropolitan regions and urban centers, and alleviate concentrated poverty by expanding economic opportunities to bypassed areas. The federal role in land use will be reformed to support collaborations across regional boundaries, promote megaregional decision making, and utilize federal funding to ensure consistency with national objectives for growth."*[1]

Such a perspective in the future management of the development of a country like the United States is clearly embedded in an attempt to maintain the US in the global economic competition by focusing on transportation, urban economies and the improvement of macroregional governance structures. This sounds like a traditional territorial planning answer to economic crisis: reinforcing economic networks at the scale of the national economy by developing and intensifying flows between various central nodes, with little perspective on innovative ways of managing future environmental challenges such as climate change.

This report discusses <u>possible directions</u> for the future development of a Vision for Europe that opens more that it narrows the room for manoeuvre. The first step of the method we have followed is the development of a specific view on how European macro-regions[2] envision themselves in the future. Such work was not possible for each one of them as not every macro-regions consider themselves a cohesive entity facing common challenges leading to a shared Vision. Therefore, from a governance standpoint, there is a clear interest in seeing specific macro-regions in Europe envisioning shared pattern of development such as Northern Europe (VASAB), North Western Europe (The Spatial Vision), Coastal Europe (The Norvision, The Atlantic Spatial Development Perspective) and Mediterranean Europe (The Mediterranean Sea in 2030, the Plan Bleu). Central and Eastern Europe have not developed specific visions at a macro-regional level but mainly at a national level such as, for example,

[1] www.america2050.org

[2] Broadly as defined in ET 2050

Switzerland (*RaumKoncept Schweiz*), Germany (*Leitbilder Der Raumentwicklung*) or Poland (Poland 2030). This encourages to both focusing on those policy documents and also to grasp clues of macro-regional scenarios of development for macro-regions. This will create a mix of political options on one hand, and of shared trends on the other.

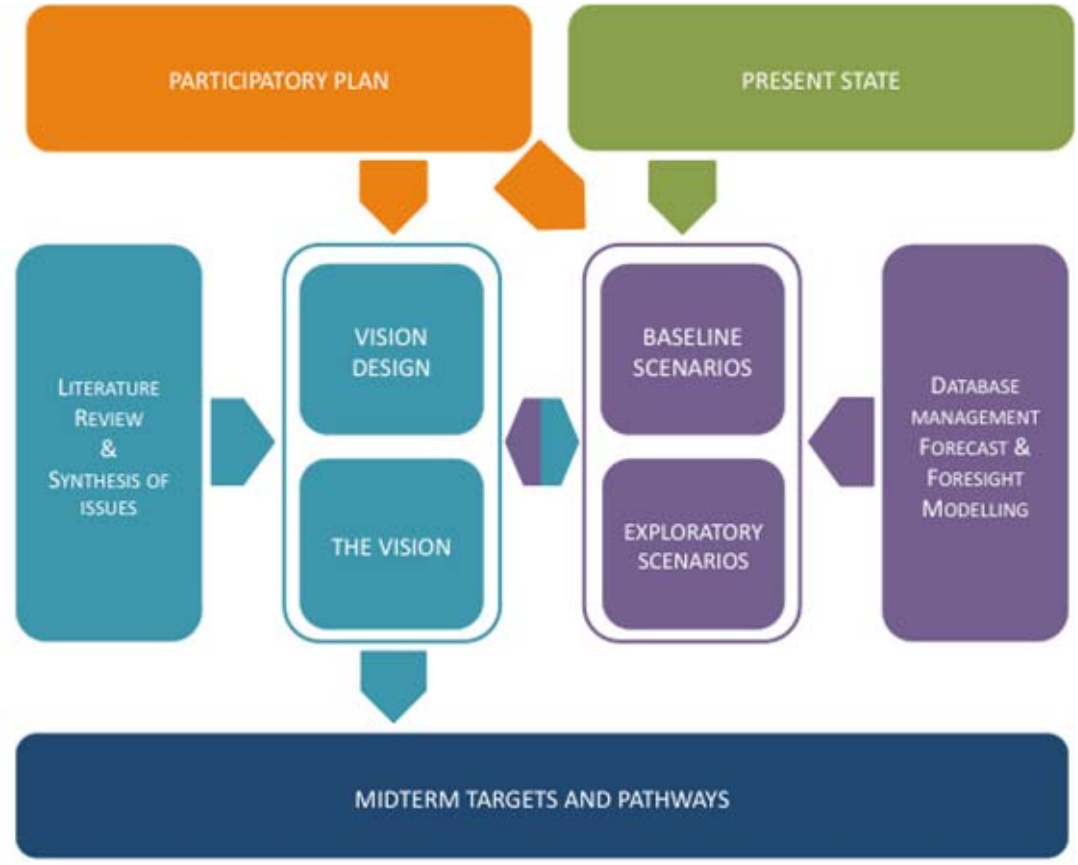
This report is therefore dedicated to a preliminary work led by IGEAT to grasp a set of issues and clues from the existing literature that could support the future conception of the Vision.
Therefore, **this report put forwards some key issues and trends that shall be used in the future development of the Vision as a toolbox** for further thought on this matter or a basis for further debates and discussions on the content of the Vision itself. This constitutes therefore mainly *food for thought*.
Another important point about this work is its main focus on the issue of embedding the future Vision for Europe in the European territory itself with its disparities in terms of governance models and strategies, territories, socio-economic issues, inequalities, planning values, etc. Such a concentration on Visions developed at a macro-regional scale has induced that we did not integrate in our synthesis issues related to the future of European governance as well as issues related to Europe in the world. These topics will be treated separately in the next steps of the work **on** the Vision.

This report is divided into three main parts:

- **The first part briefly addresses the method that we have designed to** develop a *grounded vision for Europe*;
- **The second part, aims at creating a pattern of reflection for the future conceptors of ET 2050's Vision** that should complete the outcomes of the exploratory scenarios. This is, in short, "food for thought". We give a global and transversal analysis of the various territorial visions that we have screened by discussing common values, shared issues and emerging concerns;
- **The third part of the report develops how the main macro-regional visions identified manage specific issues and targets for the future territorial development of the territory considered**. This is in line with the project specification: the development of the future vision for Europe should be embedded in existing visions for the future of Europe.

1. A WORKING METHOD FOR A *GROUNDED* VISION

IGEAT developed a specific working method to prepare the Vision design process as a first step to the writing of the Vision itself. It defines how the Vision interacts with the rest of the project. Based on earlier versions of working tools used in the project, it involves a set of adaptations and an improvement of the relations between the various parts of the project and, specifically, how they are supposed to feed the Vision.



We started from the project specification figuring the Vision as paramount in the broad design of the project, with a superposition of a politically-driven layer and of a scientifically-driven layer. We identified that in this version, the method leading to the conception of the Vision remains unclear, especially in its relation with the rest of the project and in the specific methods used to design it.

Therefore, we developed a reflection oriented towards the integration of the preparatory work of the Vision and, especially, on how this part interacts with both the participation plan and the exploratory scenarios, those latter being quantitatively informed.

The product of our reflection involves a concentration on a definition of the Vision as an attempt to integrate three poles: the already existing territorial visions for Europe and its territories (literature review), the participation plan led during the first year of the project and the exploratory scenarios which are currently under development.

Such a reengineering of the working structure involves a specific consideration of both the work led to feed the content of the Vision, a process based on both a qualitative and politically-driven perspective (literature review, participatory plan) and on a quantitative perspective based on a scientifically-driven approach developed through the modeling work and the exploratory scenarios.

2. ENVISIONING EUROPE: COMMON ISSUES AND TRENDS

This part of the report focuses on the main issues affecting the future of Europe at various levels and scales. A key element in this work on the vision is that it is *grounded* in the European territory. It means that we concentrate our work on territorial values and issues and mainly focus on territorialized visions at a macro-regional scale where are shared common issues and geographic contexts.

Such an ambition has been reached by focusing on how various European macro-regions already envision themselves in the future by reflecting and producing policy documents defining pathways for their future development. In Europe, many documents of that nature were produced in the last decade, in a period of economic growth where optimistic views on the future were supported. This is of importance in the context of this report as the Vision should be envisaged as an optimistic view, a dream of the future of Europe, even though it is based on scenarios that are, in a context of economic crisis, far less optimistic.

To build up this very first step, we have used a set of sources that are illustrated by the figure above. This figure helps to show how specific macro-regions of Europe define their own future. This gives an overview of many important issues that are related, at first, to *territorial* ones, which are at the core of the Vision design process.

MACRO REGIONAL VISIONS

NORTHWESTERN EUROPE

THE SPATIAL VISION

- NEW TRANSNATIONAL COOPERATION ZONES
- INTERNATIONAL GATEWAYS INVESTMENT ZONES
- TRANSNATIONAL TRANSPORT AXES DEVELOPMENT CORRIDORS

THE NORVISION

- WELL INTEGRATED INTO EUROPE AND THE WORLD ECONOMY
- BALANCED SPATIAL STRUCTURE
- DEMOCRATIC AND CO-OPERATIVE PLANNING
- NATURAL RESOURCES, ECOLOGICAL AND CULTURAL HERITAGE EQUILIBRIUM
- URBAN REGIONS DEVELOPING IN AN ENVIRONMENT FRIENDLY WAY
- URBAN REGIONS AS MOTORS OF ECONOMIC REGIONAL DEVELOPMENT
- URBAN REGIONS WHICH PROMOTE SOCIAL INTEGRATION
- URBAN REGIONS WHICH ARE ATTRACTIVE PLACES FOR THEIR POPULATIONS AND VISITORS
- HUMAN ACTIVITIES WHICH ARE IN HARMONY WITH NATURE
- RURAL POPULATIONS PARTICIPATE FULLY IN ECONOMIC AND SOCIAL PROGRESS

THE ATLANTIC SPATIAL DEVELOPMENT PERSPECTIVE

- GREATER SOLIDARITY BETWEEN COASTAL AREA AND THE HINTERLAND
- TO RESPOND TO THE NEED TO STRUCTURE DEVELOPMENT AREAS WHICH ARE LESS DEPENDANT ON THE CAPITAL CITIES
- IDENTIFIES FIVE MAJOR PROJECT AND DEVELOPMENT AREAS INSIDE WHICH STRONGER – BUT NOT EXCLUSIVE – COOPERATION BETWEEN REGIONS IS REQUIRED

BALTIC SEA & NORTHERN PERIPHERIES

TERRITORIAL DEVELOPMENT PERSPECTIVE FOR 2030 (VASAB)

- IN 2030 THE BALTIC SEA REGION IS A WELL-INTEGRATED AND COHERENT MACROREGION
- A MODEL FOR SUCCESSFUL IMPLEMENTATION OF THE TERRITORIAL COHESION POLICY
- A WELL-BALANCED SETUP OF METROPOLITAN CENTRES
- FAST, RELIABLE AND ENVIRONMENTALLY EFFICIENT TECHNOLOGIES OF TRANSPORT, INFORMATION AND COMMUNICATION
- INTEGRATED ENERGY PRODUCTION AND SUPPLY SYSTEM
- A VERITABLE EUROPEAN SEA MACROREGION, WHICH DEMONSTRATES AN INTEGRATED LAND AND SEA-SPACE PLANNING AND MANAGEMENT

GERMANY AND ALPINE COUNTRIES

RAUMKONZEPT SCHWEIZ

- SUSTAINABLE DEVELOPMENT AT THE CORE
- MAINTENANCE AND ENHANCEMENT OF LIVING SPACES, ECONOMIC AREAS AND LANDSCAPES
- POLYCENTRIC SPATIAL DEVELOPMENT PATTERN ENHANCING COMPETITIVENESS AND TERRITORIAL COOPERATION AND PARTNERSHIPS
- FOCUSED MAINLY ON METROPOLITAN REGIONS AND MEDIUM SIZED TOWNS BUT INCLUDES SOME ALPINE REGIONS.

LEITBILDER DER RAUMENTWICKLUNG (GERMANY)

- *GROWTH AND INNOVATION*: ORGANIZATION OF THE TERRITORY AROUND LARGE METROPOLITAN REGIONS
- *MAINTAINING ESSENTIAL SERVICES*: SAFEGUARDING AN URBAN SYSTEM OF CENTRAL PLACES, IN PARTICULAR IN AREAS FACING POPULATION DECLINE
- *PRESERVING RESOURCES, DESIGNING CULTURAL REGIONS*: OPEN SPACE AND CULTURAL LANDSCAPES
- CLIMATE AND ENERGY AS WELL AS MOBILITY AND LOGISTICS TO BE INCLUDED

EASTERN EUROPE

- SHRINKING POPULATIONS ET NEGATIVE MIGRATION BALANCES
- IMPACT OF NEIGHBOURING COUNTRIES
- GREATER INTER- & INTRAREGIONAL DISPARITIES
- IMPROVEMENT OF LAND USE MANAGEMENT
- REINFORCEMENT OF CAPITAL CITIES AND MAJOR URBAN CENTRES
- DIFFICULTIES IN REDUCING GHG EMISSIONS AND IN INCREASING RENEWABLE ENERGIES
- IMPROVEMENT OF TRANSPORT STRUCTURE AND ACCESSIBILITY
- IMPROVEMENT OF GOVERNING STRUCTURES & DECENTRALISATION

DANUBIAN COUNTRIES

VISION FOR THE DANUBE REGION

- AN INTEGRATION OF ALL THE COUNTRIES OF THE ZONE TO THE EUROPEAN UNION
- A BALANCED ECONOMIC DEVELOPMENT AND EMPLOYMENT
- A POLYCENTRIC AND DECENTRALIZED DEVELOPMENT DYNAMIC
- AN IMPROVEMENT OF RELATIONS BETWEEN COUNTRIES AND REGIONS OF THE ZONE

SOUTHWESTERN EUROPE

THE MEDITERRANEAN IN 2030

- A STRONGER AND RICHER ECONOMIC GROWTH
- DEVELOPPING EURO-MEDITERRANEAN SYNERGIES
- EXTENDING CERTAIN MEANS OF REDISTRIBUTION AND PROTECTION TO THE WHOLE OF THE MEDITERRANEAN
- STRENGHTENING COMPETITIVENESS

SOUTHERN EUROPE IN 2030 (ESPON)

- DEVELOPMENT OF THE CLUSTER OF THE LATIN ARCH (GENOA, NICE, MARSEILLE, MONTPELLIER, BARCELONA AND VALENCIA) & INTEGRATION OF THE CLUSTER MADRID-SEVILLE LISBON-PORTO (HST NETWORK)
- RURAL AREAS AND LANDSCAPES IN EUROPE ARE MUCH MORE DIVERSIFIED
- NUMEROUS CHANGES HAVE TAKEN PLACE IN AGRICULTURAL PRODUCTION, ENERGY SYSTEMS, WATER MANAGEMENT SYSTEMS AND TOURIST DEVELOPMENT, IN ORDER TO FACE THE IMPACTS OF INCREASING DROUGHT
- THE DENSIFICATION PROCESS OF COASTAL AREAS HAS CONTINUED BUT FURTHER SPRAWL COULD BE AVOIDED AND NATURAL AREAS WERE EFFICIENTLY PROTECTED

SOUTH MEDITERRANEAN COUNTRIES

- TERRITORIAL FRAGMENTATION AT THE SCALE OF THE MACROREGION
- A CONTRASTED URBANIZATION: DENSE BUT POLYCENTRIC IN ITALY AND SLOVENIA WHILE DENSE AND CONCENTRIC IN EGYPT AND LYBIA
- A WORSENING GOVERNANCE CAPACITY AND AN UNCERTAIN FUTURE AFTER THE ARAB SPRING
- CONTRASTING DEMOGRAPHICAL CHALLENGES: POPULATION AGEING IN SLOVENIA AND ITALY WHILE YOUNG POPULATION IN LYBIA AND EGYPT WITH VARIOUS IMPACTS ON SOCIO-ECONOMIC AND SOCIO-CULTURAL FACTORS
- THREAT OF DESERTIFICATION THAT SHOULD BE (PARTLY) TACKLED BY THE DEVELOPMENT OF GREEN ECONOMIES; TURN TO RENEWABLE ENERGIES; LYBIA AND EGYPT AS SOLAR POWERS

SOUTH EASTERN EUROPE

THE BLUE PLAN

- LOCAL GOVERNANCE / PARTICIPATORY APPROACH / LONG TERM VISION
- AN ACCENTUATED URBAN DIMENSION IN PAN-MEDITERRANEAN COOPERATION
- DIVERSIFICATION OF THE RURAL ECONOMY
- HIGH QUALITY FOOD PRODUCTION
- SMALL AND MEDIUM SCALE AGRICULTURE
- WATER AND ENERGY-FRIENDLY PRODUCTION AND TECHNOLOGY
- REPAIRING AND RESTORING COASTAL ECOSYSTEMS
- BIODIVERSITY CONSERVATION
- DEVELOPMENT OF RENEWABLE ENERGIES
- IMPROVING TRANSPORT SYSTEMS
- SUSTAINABLE TOURISM
- HINTERLAND ECONOMIC AND SOCIAL DEVELOPMENT

2.1. Shared values for a territorial(ized) Europe

2.1.1. Cooperation

Cooperation between European regions as well as between cities but also between cities and their hinterland appear as a crosscutting issue for the development of a Vision for Europe. This has to do both with the improvement of relations between territorial entities and with the improvement of the decision-making process, which should be improved by the means of transparency and collaborative processes.

2.1.2. Polycentricity / Equilibrium

These are pretty old values of territorial development in Europe. An approach initiated by the French DATAR policy of “métropoles d’équilibres” in the 1960’s. These values are key drivers in the development of visions for Europe as the situations of the European macro-regions as defined in the project are rather contrasted. Moreover, radical disparities between sub-entities of those macroregions appear especially in Southern and Eastern Europe. A crucial issue, therefore, that should be managed carefully.

2.1.3. Connectivity

Related to polycentricity and equilibrium are both issues of connection and accessibility. The improvement of transport networks and of connections between various regions in Europe appears of crucial importance. But related to this issue is also the scarcity of energy resources as well as the environmental impact of nuclear energy and of GHG emissions. Improving accessibility, reinforcing equilibrium and developing cooperation are key issues, however, heavily dependent upon energy and environmental perspectives. The integration of this set of issues (environment, energy, and political and economical development) should be at the core of the development of a vision for Europe.

2.1.4. Growth

Economic growth remains a central value of economic development, the production of wealth being largely seen as a central issue in the development of political communities and of their wellbeing. Despite this, a vision for Europe should also take into account the fact that growth should be related to sustainable development. On this, the whole issue of Green Growth appears of central importance, notably in the Europe 2020 Strategy. Green Growth is envisioned as a turn of economic activities to sustainable development in accordance to OECD’s standards.

2.1.5. Sustainable Development

In this perspective, the majority of the macro-regions envision a sustainable development based on renewable energies, ecosystem conservation, biodiversity enhancement and water and energy friendly production at the core of their future development. However, regarding geographical as well as economic disparities in Europe, the situation of the macro-regions and their sub-entities is contrasting. The development of visions for the future of Europe should tackle this latter point.

2.1.6. Democracy

The reinforcement of democracy appears also as a shared target for the visions examined. Developing collaborative decision-making processes as well as transparency remains of crucial importance. This couples to the ambition of enhancing participatory processes and the involvement of population in policy development.

2.2. Shared Issues for an Urban Europe

2.2.1. Gateway cities

This topic appears as a shared issue for many European macro-regions: gateway cities are the main connection of those regions to the World Economy and its flows. The main concern remains the capacity of those gateway cities to becoming hubs redistributing those flows on the territory through a polycentric structure and corridor rather than to concentrate these flows on its territory.

2.2.2. Urban Clusters

The importance of connections between cities could be summed up in the “Urban Clusters” idea of the Plan Bleu about the Mediterranean area. But this is shared by many visions especially those concerned with the development of coastal regions. This points out both issues of connections between cities and of joined strategies and collaborative visions about economic, social and environmental development. The Urban Cluster idea introduces to sharing common perspectives and projects between close cities in order to foster their competitiveness.

2.2.3. A highly connected Rural Hinterland

Envisioning the future of rural hinterland is a crucial issue. The rapid development of urban areas in Europe is a matter of high pressure on their rural hinterland at economic, social and environmental level. Having visions about how those hinterlands will transform and change as well as about how their relationships with their main urban core will be managed is a key for the future equilibrium of Europe.

2.2.4. Motor of Economic Development

It is largely admitted that the future of Europe’s economic development will be based on cities. The rising of the knowledge-based economy as well as of the service economy and their domination in Europe’s economic development is broadly envisioned as the future of Europe. However as it is emphasised in the Plan Bleu and the Norvision, it remains crucial to manage how cities as motors of economic development will affect their hinterland and how the wealth generated by urban activities will be redistributed. Another issue is the economic transition of rural and peripheral areas: the recent transformations in their population structures influenced by the new technologies of information and communication, the development of private means of transport as well as the rise in commuting and of its scale should be tackled as a crucial issue in the relationship between cities and their hinterland but also in the definition of the urban character itself of the economy.

2.2.5. Sustainable

The sustainable character of cities is broadly envisaged as a crucial point at many levels: housing, commuting, public and private transports, economy, etc. This emphasises the

importance of conceiving visions that entail sustainability and green economy at the core of both urban development and the transformation of urban-rural relations.

2.2.6. Socially integrated

Territorial equilibrium is often seen as a crucial support to social integration. The social fragmentation of Europe's territory is a threat that overlaps with the current disequilibrium between the urban core of Europe mainly concentrated in the North Western area and the rest of the European territory. The social integration of the broad territory but also at a smaller scale, especially at the scale of cities, is a key issue that should be a part of visions about the future development of Europe, especially its more pessimistic ones.

2.2.7. Attractive

"Being attractive" has been the motto of many cities in Europe and the world since the 1990's. This has engendered an overall turn to urban marketing, missing the point of social equilibrium as well as the whole issue of sustainable development. The development of visions for Europe should critically address the effects of being attractive, positive as well as negative, and situate that very issue within a broader framework where this mingles with social and environmental issues.

2.3. Shared Issues for a Rural Europe

2.3.1. Better connected

The importance for rural periphery to be better connected to urban economic cores appear of crucial importance to satisfy both targets of a better territorial equilibrium in Europe as well as of a social integration of the whole territory.

2.3.2. Economically integrated & diversified

To assume a highest connection of the rural periphery into the core dynamics of Europe means both to support its better integration but also to take into account its specificities and the contrasting situations. This means also to support the diversification of activities in the rural hinterland and periphery to reinforce both the autonomy of those territories and their capacity to collaborate with urban regions.

2.3.3. Diversified from environment and biodiversity standpoints

The diversification of those territories has not only to do with economy. It is also a matter of environment and biodiversity. The constant pressure of extending urban areas and conurbations affects the rural periphery by pushing to a homogenization of its environment. Envisioning how rural areas could maintain diversity at the environmental level comes out as a key issue.

2.3.4. Small and medium scale agriculture

Such an environmental diversification has to do with the keeping or the re-development of a small and medium scale agriculture respecting natural cycles and respecting environmental equilibrium and ecosystems, as proposed for example by the Plan Bleu. Gains in productivity by the intensification of agriculture should also been critically addressed. Moreover the whole issue of urban small-sized agriculture should be envisioned as a possible turn in food supplying.

2.3.5. High quality food production

The transformation of agricultural practices should also be seen as a trend to an improvement in food production in a context where the health of an ageing Europe will be highly valuated.

2.3.6. Production of renewable energies

The transformation of the rural economy, its diversification and change in size as well as transformations in the productivity of agricultural production could help to find rooms for the development of activities related to the production of renewable energies in various countries: solar and wind energies productions in Mediterranean countries are already a rising activity and this could be seen as an important turn in the whole rural European area.

2.4. Emerging territorial entities: the case of coastal and maritime Europe

Out of the visions examined comes an emerging issue: the new transregional dynamics developed within coastal and maritime regions in Europe, namely the North Sea, the Atlantic Coast, the Baltic Sea and the Mediterranean Sea. Each coastal region appears to share common social, economic and environmental issues. This dimension should be of crucial importance in the development of a vision as these coastal areas could be seen as specific territorial entities where new definitions of transnational regions emerge. Those regions share common environmental issues, such as the rise of sea level or erosion; but also economic issues, such as the transformation of industrial economies, their nodal position in the transport of goods and a peripheral position in the national economies; and social issues such as new waves of in-migrations and unemployment.

3. ENVISIONING EUROPE: TERRITORIAL SPECIFICITIES

In Europe envisioning shared pattern of development such as Northern Europe (VASAB), North Western Europe (The Spatial Vision), Coastal Europe (The Norvision, The Atlantic Spatial Development Perspective) and Mediterranean Europe (The Mediterranean in 2030, the Plan Bleu). Central and Eastern Europe have not developed specific vision at a macro-regional level but mainly at a national level such as, for example, Switzerland (RaumKoncept Schweiz), Germany (Leitbilder Der Raumentwicklung) or Poland (Poland 2030). This encourages to both focusing on those policy documents and also to grasp clues of macro-regional scenarios of development for macro-regions. This will create a mix of political options on one hand, and of shared trends on the other.

3.1. NORTH-WESTERN EUROPE

3.1.1. The Spatial Vision for North West Europe

The *Spatial Vision for North West Europe* published in 2000 by a group of experts[3] in the vicinity of the INTERREG IIIB program involves a set of issues and seeds based on both the unequal accessibility of NWE territories as well as proposals to counter the disequilibrium between the urban core and the rural periphery. This perspective is, however, focused on socio-economic and territorial issues while environment is not taken into account. This Spatial Vision is based on both a territorial typology of NWE and the development of actions on existing and new Eurocorridors in order to counterbalance the current dominations of a set of urban cores on the rest of the territory. It defines new transnational cooperation zones *with specific needs and tasks on environmental, natural, cultural and economic issue*, international gateways investments zones and transnational transport axes sustaining development corridors.

[3] **BASTIN C. & al. (2000).** ***Spatial Vision for North West Europe*****.**

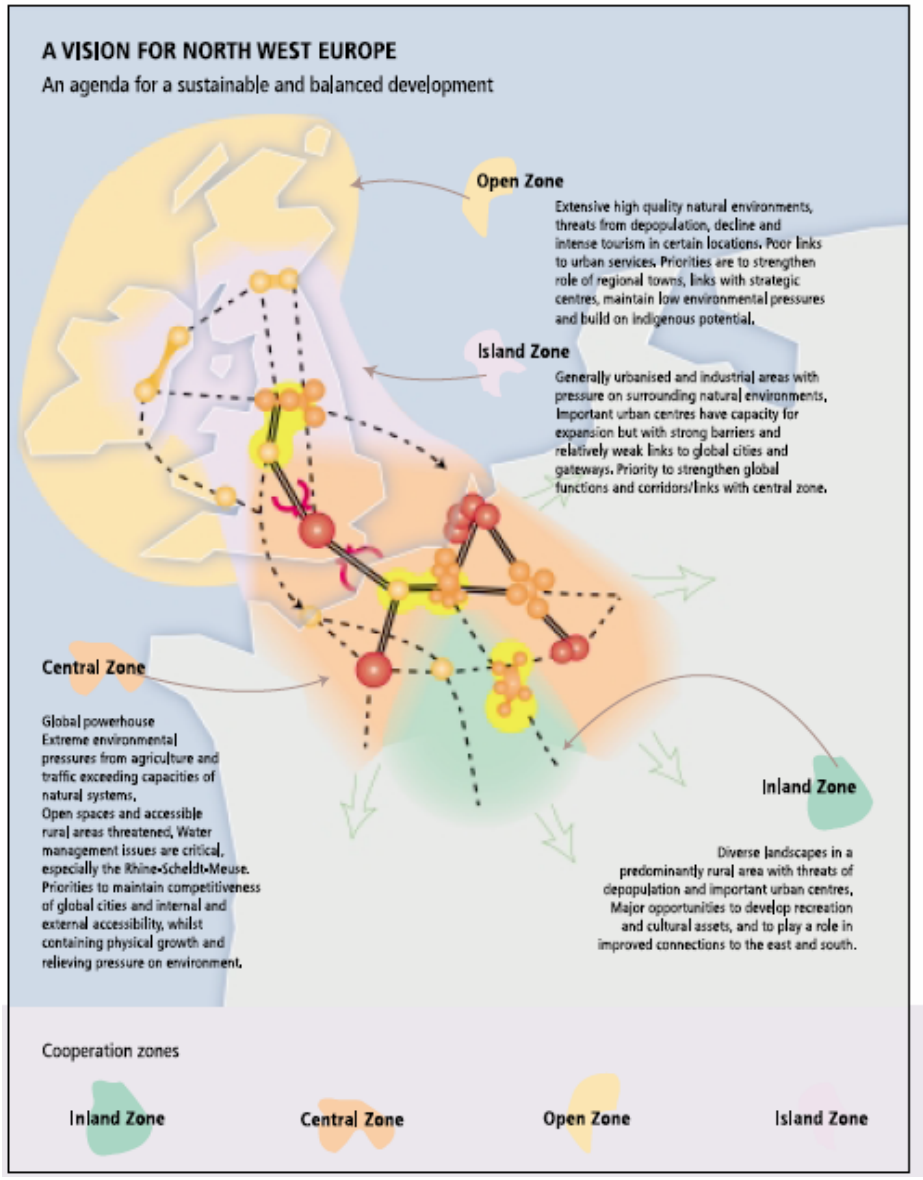


Figure 3 - The Vision for North West Europe (Source: The Spatial Vision)

This Vision defines specific zones for actions and development that coincides with the global dynamic at stake in North West Europe, namely:

- **The Open Zone**: situated at the northern periphery this zone is characterised by a sparsely populated area and high quality natural environments but with a threat of depopulation and a rising tourism pressure. The Vision preconizes a "*more balanced development with the neighbouring zones and better connections into the central areas without jeopardising the quality of the natural environment*".
- **The Island Zone**: marked as a transitional area between the core and the periphery this zone faces bad connections with the central zone especially with the continental part of it.
- **The Central Zone**: The Central Zone coincides with central MEGAs of Europe. It is a zone of high pressure on the local environment both in the city and their hinterland. Maintaining their competitiveness whilst controlling their development is a core issue. The main scope for this zone is to manage its growth by creating a more

balanced development benefiting to peripheral areas, notably by the development of corridors between the central zone and the others.

- **The Inland Zone:** this zone constitutes the southern periphery of North West Europe with a relative depopulation and high quality landscapes that should be preserved and developed on the basis of its own resources. The scope should be the protection of tradional landscapes by promoting local potential to counter decline and relieve pressure on close urban areas.

In this Vision, a specific project is elaborated on axes between these various zones, the corridors in order to tackle some bottlenecks effects, notably around London and the Channel Tunnel. The creation of alternative corridors is considered an answer to the pressure on existing ones. Three alternative corridors are identified: the North East Trade Axis (from Ireland- northern England-short sea crossing to the Netherlands and Germany); Le Havre-Rouen- Amiens-Reims-Lorraine (which should be extended north eastwards to Ireland); and the Brussels, Luxembourg and south corridor.

The counterweight to global gateways is envisioned by the development of city clusters, economic centers development of specific strategies. These strategies aim at the creation of integrated spatial development in the peripheral areas to support a global equilibrium in the macroregion itself and relieve pressure from the surroundings of global centres. This scope concerns mainly the Midlands and North England; Brussels and Lille as well as the Saar-Lor-Lux region.

3.1.2. The Norvision

Initiatives have also been taken in the framework of the emergent coastal regions, sharing common issues at both economic and social levels as well as a common confrontation to environmental issues such as coastal erosion, flooding and storms. This has been developed for North Sea Europe in the document *Norvision*[4]. This Vision is defined upon a set of ten statements. Those statements assume a specific definition of the future of this maritime territory based on : an integration of the entire space in Europe and in the world, a balanced spatial structure, democratic and co-operative planning, ecological equilibrium and preserved heritage, urban regions developing in an eco-friendly way, Urban Regions as motors of economic regional development, urban regions promoting social integration, urban regions as attractive places ofr residents and visitors, rural areas in harmony with nature and the integration of rural population into socio-economic development.
The Norvision makes a clear distinction between Urban and Rural areas envisaging a core-periphery relation between core urban regions and peripheral urban areas. The Vision focuses mainly on sustaining the growth of the local economy whilst keeping a spatial equilibrium between cities and their rural periphery.

Four general statements are made:

- A focus is made in **integration** into the European space and the World economy. The integration into the European space is envisioned through the development of physical links between core regions already highly developed and less developed regions. The scope is to maintain the quality of core regions (Ransdstand, Rhein-Ruhr,

[4] ***N O R V I S I O N. A SPATIAL PERSPECTIVE FOR THE NORTH SEA REGION.***

Öresund region and London region) while improving the accessibility of Arhus region in Denmark and Birmingham, Liverpol, Manchester and Glasgow regions. Complementary to this material integration, an integration through cooperation in spatial planning is also defined as a core dimension as well as a shared representation of the region's interest towards international institutions.

- The development of a **balanced spatial structure** is also emphasised, i.e. "*similar levels of welfare-relevant opportunities*, *securing competitiveness of regions and balancing the interests of the present and those of future generation".* Spatial planning in this region should manage the development of a polycentric system of metropolitan regions, city clusters and networks as well as the accessibility of peripheral regions to differentiated employment markets, education facilities, cultural activities and information.
- The Norvision ambitions to become a **model for Democratic and Co-operative planning.** A strong experience of participation and promotion of public-private partnership for spatial planning has been gained in the Region and should be enhance. Further development of tools for effective participation of various target groups is envisaged as the core of the future of democratic planning. As such, exchange of experience in the Region should be promoted. An important aim is also to *enhance consultation processes for projects and plans which affect neighbouring countries.*
- The Norvision is also concerned with **taking care of its natural resources, ecological equilibrium and cultural heritage.** A focus is made on the effective management of natural and cultural heritage. In order to reduce the impact of development on local natural resources, a plea is made for a wise and efficient use of non-renewable natural resources. The intensive use of wind and hydro energies is seen as relevant solutions for the region. An emphasis is also made on a common action to protect the North Sea itself from the impact of economic development by the means of "*a comprehensive protection strategy for the North Sea* based on an *Integrated Coastal Zone Management* and an *Integrated Catchment Management*, especially considering the impact of climate change and rising sea level challenging the coastal protection and its development.

Four statements are made considering the urban regions:

- The de development of **eco-friendly urban regions** is considered as a central issue in the future development of cities. The pressure on local environment by urban economies should be reduced in order to improve quality of live as well as keeping a beneficial economic development. Mobility and traffic management is envisaged as a key sector of action and improvement by a better utilisation of existing infrastructure and the limitation of the demand for vehicular traffic. A shift from private to public transport is ambitioned. The limitation of land consumption by urban expansion is also seen as a key for the future development of urban regions: "*A balance between the demand for housing and business development and the protection of green space has to be sought*". Waste management as well as recycling are both seen as central focus points too.
- At the same time **urban regions are still considered as motors of economic and regional development**. Local development is defined through urban regions, which includes not only metropolitan areas but also secondary cities and smaller rural

centres. The idea is the development of networking within city clusters by developing synergy effects between cities, mainly by the coordination of complementary services. Accessibility of cities is also envisaged by promoting public mass transport in every area, including less densely populated areas. The development of intermodal facilities for freight traffic is also defined as a key action. New economies based on endogenous potentials should also be managed, especially in the field of technologies. An integrated approach of economic adaptability, heritage and environment conservation should be developed.

- **Urban regions should promote social integration.** From a community living standpoint, urban living in the Region is defined as a "*colourful mixture of life styles*". Social diversity and social integration should be a central focus of urban development policies in order to manage segregation issues.
- **The attractive character of cities for their populations and visitors** is defined as a key for their future management. The quality of urban landscapes and design should be promoted and the diversity of neighbourhoods should reflect the variety of demands for specific environments. Regeneration of old and derelict neighbourhood should be managed but by avoiding gentrification effects. Central Business District should be avoided. Cities should be kept lively. Marketing strategies for cities have become pinpoints in good management, as competition between cities has risen. The enhancement of the quality of public services benefiting to residents as well as to business development is a crucial dimension in a successful development strategy.

Two statements are for rural areas:

- **The development of human activities in rural areas should be made in harmony with nature**. The extension of economic activities in rural areas especially non-agricultural activities such as housing, business, services and tourist activities. Tourism in rural area is growing, especially in coastal areas and therefore environment friendly forms of tourism should be promoted.
- **The rural populations should participate fully in economic and social progress**. The main idea of the Norvision is that *"rural populations shall have a chance to benefit from general economic and social progress without being forced to migrate to other regions as a reaction to lost access to adequate service, education, job and cultural facilities*". Therefore, the vision promotes that decent provision of health, social and administrative and general supply services should be maintained in rural towns and their surroundings especially for young families, the elderly and the non-car owners. An emphasis is also made on the use of information and communication technology to create new job opportunities and to counterweight the loss of accessibility in more peripheral areas.

3.1.3. The Atlantic Spatial Development Perspective

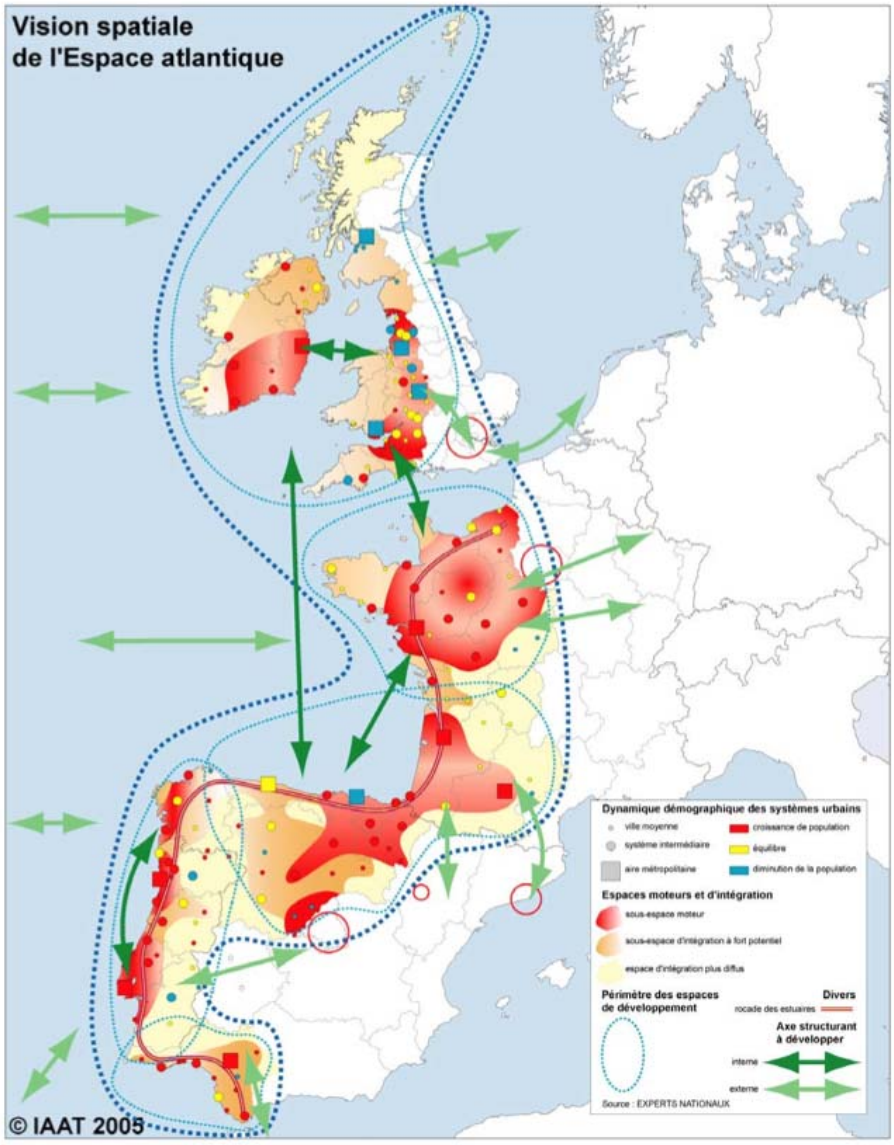
Another initiative taken for North-western coastal regions as well as for South-western coastal Europe, is the Atlantic Spatial Development Perspective that covers the entire western coast of continental Europe[5]. This vision has been conceived by the *Conference of peripheral maritime regions of Europe*. It aims at: (1) developing a great **solidarity** between

[5] **CONFERENCE OF PERIPHERAL MARITIME REGIONS OF EUROPE (2005).** ***Atlantic Spatial Development Perspective.***

coastal area and their hinterland; (2) responding to the **need to structure development areas which are less dependant on the capital cities;** (3) **identifying major project and development areas** inside which stronger – but not exclusive – cooperation between regions is required.

The development of sub-areas within the Atlantic Coastal regions share a common purpose with the Norvision : developing **better integrated areas with sustainable and balance development.** In this perspective, **polycentrism** is identified as a key for a stronger autonomy of the Atlantic regions.

In line with the ESDP, this vision is focused on polycentrism and proposes the development of coastal sub areas where specific policies should be conceived and developed. They are conceive as **project areas***.* An interesting point in this Vision, is that it conceives specific that did not coincide specifically with existing regions and gives "*an intermediate territorial framework between the local and the overall Atlantic Area*". Those areas create a room of manoeuvre for the implementation of *"more coherent, more balanced and more sustainable co-operation*".



The vision identifies five major projects and development areas of this nature:

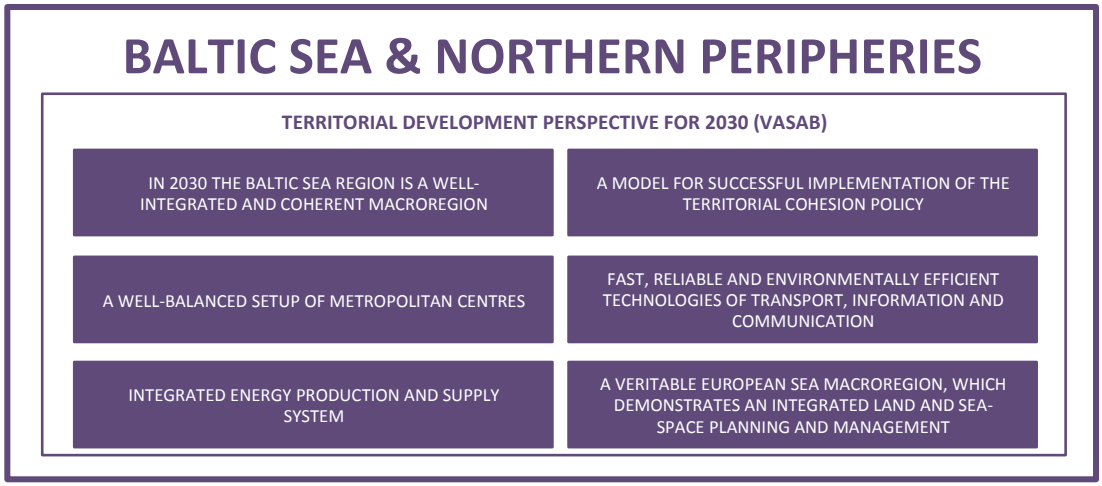
- **The British Atlantic Area (Western part of the United Kingdom and Ireland):** the vision pleas for a concerted planning for the entire zone and especially for a joint management of the Irish Sea and its coasts.
- **The French North-West Area:** this area covers the regions in the north-western half of the French Atlantic Area*. It includes* Normandy, Cotentin*,* Brittany and Poitou-Charentes, and inland areas of the Centre as well as the Limousin*.*
- **The French-Spanish Area:** this are includes Southwest France and Northern Spain*.* The idea is to develop cross-border co-operation between the Autonomous Communities of the Pays Basque, Navarre, La Rioja, Cantabria, Asturias, Castile and Léon and Galicia in Spain, and the Aquitaine and Midi-Pyrenees regions and the southern part of Limousin in France*.* The issue of the crossing of the Pyrenees*,* especially the development of adapted solutions, is emphasised in its environmental dimensions.
- **The Western Iberian Area:** this area includes the western seaboard of the Iberian Peninsula and includes all of the Portuguese regions except the Algarve*.* This zone is defined as a *"transition point*" between Latin America, Africa and Europe*.* In the context of an ever-increasing globalization, this zone is seen as a potential new gateway to the Americas and to Africa, especially through Lisbon.
- **The Southern Iberian Area**: this includes the Algarve and western Andalusia that share a tradition of active cross-border co-operation between them for many years.

Out of this definition of five project areas in the Atlantic Coast region emerge three types of recommendations for future developments:

- **Territorial development** should be based on *"new polycentric urban territorialities*". This idea put forward a massive development of cooperation dynamics between average-sized towns*,* especially synergies improving their international exposure*.* But also, struggling against the depopulation of rural areas calls for adapted solutions.
- **Sectorial recommendations** involve specific actions on accessibility and transport, research-development- innovation, the environment and risk protection*.*
- **Interlinks between the various areas** is also considered a crucial dimension. Wider cooperation especially in transport is put forward as well as the development of relations with other large European or global geo-economic entities*.*

3.2. NORTHERN EUROPE: THE VASAB LONG-TERM PERSPECTIVE[6]

[6] Text adapted from NORDREGIO (Alexandre Dubois & Johanna Roto)



The Visions and strategies around the Baltic Sea (VASAB) has been developed upon a cooperation between the ministries in charge of spatial planning in the Baltic Sea Region, i.e. Sweden, Finland, Estonia, Latvia, Lithuania, Poland, Germany and Denmark but also Russia, Norway and Belarus. It, therefore, covers a larger area than the INTERREG zone. In many ways, it can be therefore assimilated to an emerging Maritime area as the Atlantic coast or the North Sea Region.

The ministerial conference of the VASAB has endorsed in 2009 a Long-Term Perspective for the Territorial Development of the Baltic Sea Region until 2030. This documents envisions the future of the region in many dimensions: a progressing economic integration, the development of the metropolitan regions as international centres and gateway, the demographic challenge in small and medium sized cities, the development of reinforced relations between urban and rural areas, the creation of gateways to the zone, especially on Russia, the transport accessibility, the integration of the energy networks, the development of a digital and technological equilibrium in the area and the development of an awareness of the sea use potentials and threats around the Baltic Sea.

The VASAB Committee (2010) proposes the following vision for the BSR in 2030, from a territorial cohesion perspective: *In 2030 the Baltic Sea Region is a well-integrated and coherent macroregion. It has overcome the socio-economic development divides between its individual parts and turned the global challenges into assets.*

- It is regarded a model for successful implementation of the **territorial cohesion policy** and effective cooperation between the European Union countries and the neighbouring countries for the development of a transnational area.
- It features a **well-balanced setup of metropolitan** centres, which act as the global and the BSR gateways, and small and medium-sized cities and towns, which secure a high quality of life for their residents in both urban and rural areas.
- It accounts for fast, **reliable and environmentally efficient technologies of transport, information and communication** that link the territories along and across the Baltic Sea, making the community of the Baltic Sea Region well-connected and highly accessible in the contacts both internally and with the outside world.
- It has **an integrated energy production and supply system** with well-diversified sources of energy, including renewable energies.
- It is a **veritable European sea macroregion**, which demonstrates an integrated land and sea-space planning and management. The Baltic Sea is acknowledged as a common asset and a development resource of all the countries, and the maritime spatial planning principles alleviate the potential sea use conflicts for the present and future generations.

The action agenda following this vision is structured around three main fields of policy intervention:

1. Promoting urban networking and urban-rural cooperation
2. Improving internal and external accessibility
3. Enhancing maritime spatial planning and management

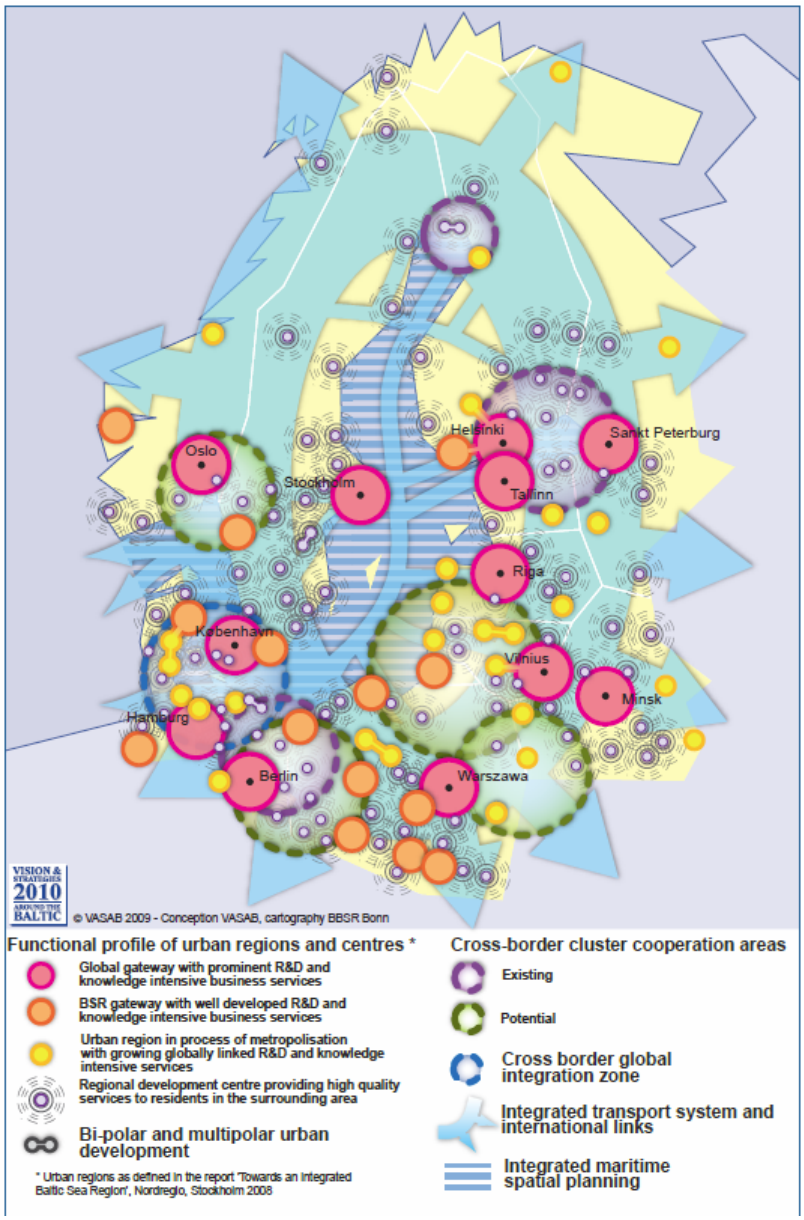
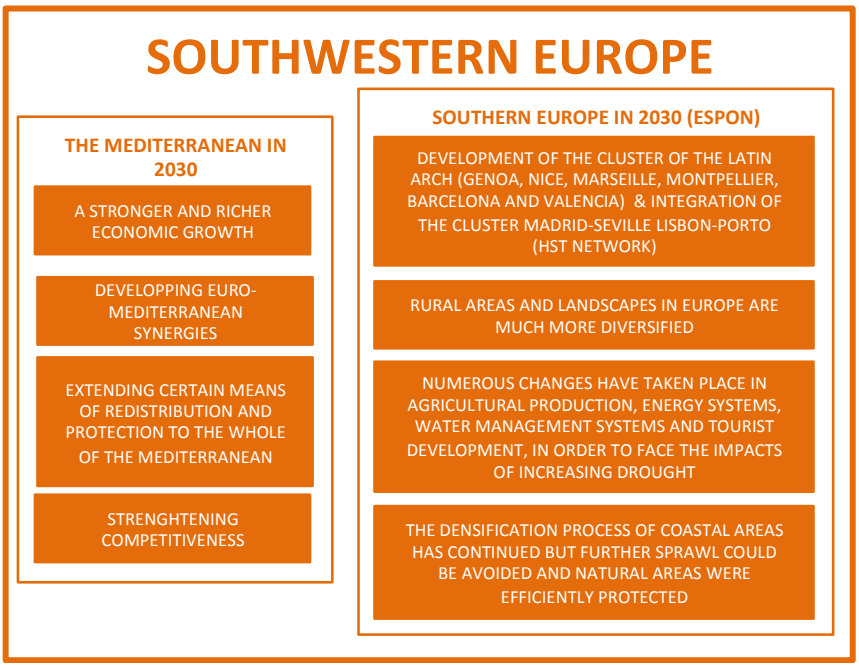


Figure Territorial development perspective for 2030 (VASAB 2010)

3.3. SOUTH WESTERN EUROPE[7]



Here again, the issue of the development of a coastal and maritime region appears of a crucial importance. With the document "The Mediterranean in 2030: routes to a better future", the Institut de Prospective Économique du Monde Méditerranéen (IPEMED) has put forward a specific vision on the future of the zone supported by important French firms such as Renault, Suez, Air France, La Poste or KPMG. This vision mainly insists on economic dimensions of the zone, emphasising many potential synergies in the workforce or in the natural resources. It also puts forward the importance of global economic equilibrium in the zone, especially by the development of a demand logic aiming at managing energy scarcity as well as the pressure of agriculture on the environment. This logic is in line with the development of local solvent market: "*Instead of transforming (the South countries of the zone) into low cost platforms destined for the common market (…), the emphasis should be on proximity, which guarantees quality (…) and responsiveness*". Such a focused redevelopment of the zone should aim at providing enough jobs but also to adapt to greater energy restraint and the preservation of natural resources. Food crisis should be managed as well by a specific focus on agriculture and the issues of rural life. The challenge of migrations to cities should also be managed.

In order to struggle against the emergence of a divergence scenario in the zone, entailing a differentiated integration of countries into the World Economy, proposes a top-down convergence scenario.

This scenario focuses on the reinforcement of economic growth by a set of synergies, extending certain means of redistribution and protection to the whole of the Mediterranean and strengthening competitiveness. Such a scenario would imply an enforced institutional framework in which the perspectives of access to the European Union or to the European internal market will foster the harmonization of norms as showed by examples of Croatia

[7] Text adapted from MCRIT (Andreu Ullied and Oriol Biosca)

and Turkey as well as the new member states. In a regionally integrated system (i.e. regional establishment of the four EU freedoms, access to the European domestic market and standardized norms), accompanied by enhanced cooperation open to South and East Mediterranean countries, internal levers for growth could result in increased regional productivity and employment.

At a bigger scale than the Mediterranean Sea as a whole, the specific situation of the South-Western Europe could be approached through the *Spatial scenarios in relation to the ESDP and EU Cohesion Policy* (ESPON, 2007). In this document the global situation of South-Western Europe by 2030 could be defined around several issues, sharing ESDP frameworks:

- In the western Mediterranean, **the cluster of the Latin Arch comprising Genoa, Nice, Marseille, Montpellier, Barcelona and Valencia has consolidated to become a lively coastal region** with high-level technological, cultural, service and transport activities. In southwest Europe, the integration of the cluster Madrid-Seville Lisbon-Porto has been facilitated by the development of an efficient HST network and has benefited from the increasing economic interactions with the countries of Latin America.
- By 2030, **rural areas and landscapes in Europe are much more diversified** than they were in the early 2000s. Some have substantial population density in relation with their proximity to large towns and metropolitan areas and to their attractiveness for residential and tourist functions. These are spread throughout east and west in the surroundings of large cities, in coastal areas in a number of Mediterranean regions with favourable climates.
- In southern Europe, **numerous changes have taken place in agricultural production, energy systems, water management systems and tourist development, in order to face the impacts of increasing drough**t. Water-saving agriculture rises. Biofuels based on water-saving cereals such as sunflowers or colza rises. Forest management manages the risks of great fires and their impact. Solar and wind energies market shares have dramatically increased. The development of new and large-scale tourist resorts is avoided. Instead, small-scale, more sustainable projects, better adapted to local natural, climatic and hydro-geological conditions were developed.
- The densification process of coastal areas has continued in most parts of Europe, but **new settlements were grouped around existing towns and nuclei, so that further sprawl could be avoided and natural areas were efficiently protected**.

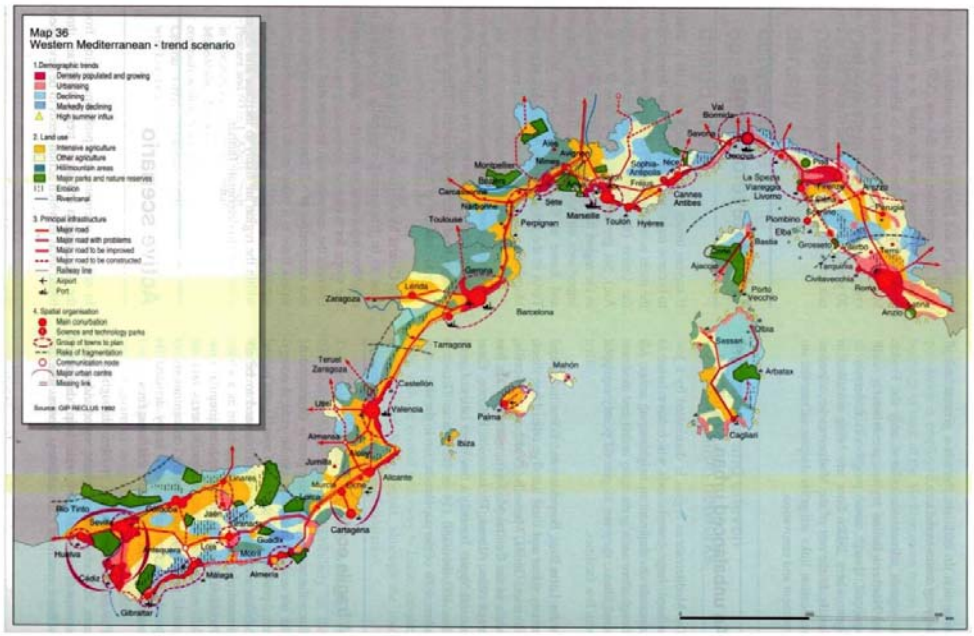
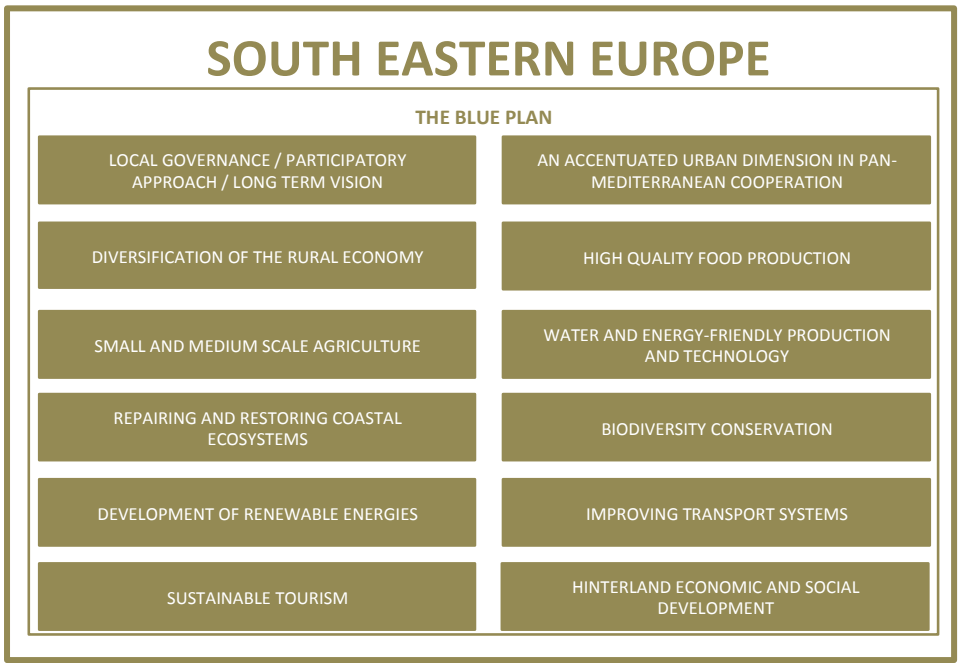


Figure The South Western Mediterranean Arch (ESPON, *2007)*

1.4. SOUTH-EASTERN EUROPE[8]



Another maritime and coastal strategy has been set up in the vicinity of the Plan Bleu. The Plan Bleu originates in the 1975 Mediterranean Action Plan (MAP) adopted in Barcelona following the 1972 Untied Nations Stockholm conference on the Environment. The MAP was focused on the implementation of the Barcelona Convention on the protection of the Mediterranean Sea, on monitoring and research of marine pollution and the development of

[8] Text adapted from UTH (Harry Coccosis and Dora Papatheochari)

a socio-economic approach to environmental issues in the region. After the 1992 Rio conference and the setting up of the Agenda 21 targets, a second MAP was approved and, in 1996, the Mediterranean Commission on Sustainable Development (MCSD) was established. Following such changes, a shift occurred in the MAP leading to an *integrated planning and management of the coastal regions*, including the twenty-one coastal countries (Albania, Algeria, Bosnia Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Morocco, Montenegro, Slovenia, Spain, Syria, Tunisia and Turkey) and the European Community.

In 2005, the MCSD adopted the Mediterranean Strategy for Sustainable Development (MSSD). This document is based on the development of a set of projections to 2025 aiming at:

- **A more rational use of energy and rapid development of renewables** (solar, wind, geo-thermal energy and hydroelectricity). It is assumed that savings of 20 to 25% in total energy demand can be made by 2025, with renewables accounting for 14% as compared with the 4% in the baseline scenario. The housing sector represents the most significant potential for energy savings, particularly in the Southern and Eastern countries, where there is strong population growth. This entails **major changes in energy thinking, planning and management** in order to diversify policies and involve as many stakeholders as possible.
- **A decoupling of motorized mobility from economic growth**, with a modal distribution more favourable to rail (20%) and maritime transport and extended and stricter implementation of rules to combat pollution from ships. This operates in the context of a **growing pressure of transportation**: by 2025, a 2.6 fold increase in land freight traffic, 3.7 fold in maritime freight traffic, and a virtually two-fold increase in passenger traffic are envisioned, with a major impact on the environment in terms of congestion, noise pollution, greenhouse gas emissions and local pollution.
- **An efficient management of urban sprawl as wells as at the reduction of vulnerability to natural hazards and mitigating impacts on the near and remote environment**. An emphasis is made on **proximity in the development of future urban policies. Long-term vision on urban planning as well as strategic development perspectives and participation are put forward as keys for future local policies**. **Better multilevel governance** is envisaged as a necessity to master the goal of sustainable development in the Region. The Mediterranean area would benefit in this regard from an accentuated urban dimension in pan- Mediterranean cooperation in view of supporting medium-sized cities and urban areas in crisis.

.

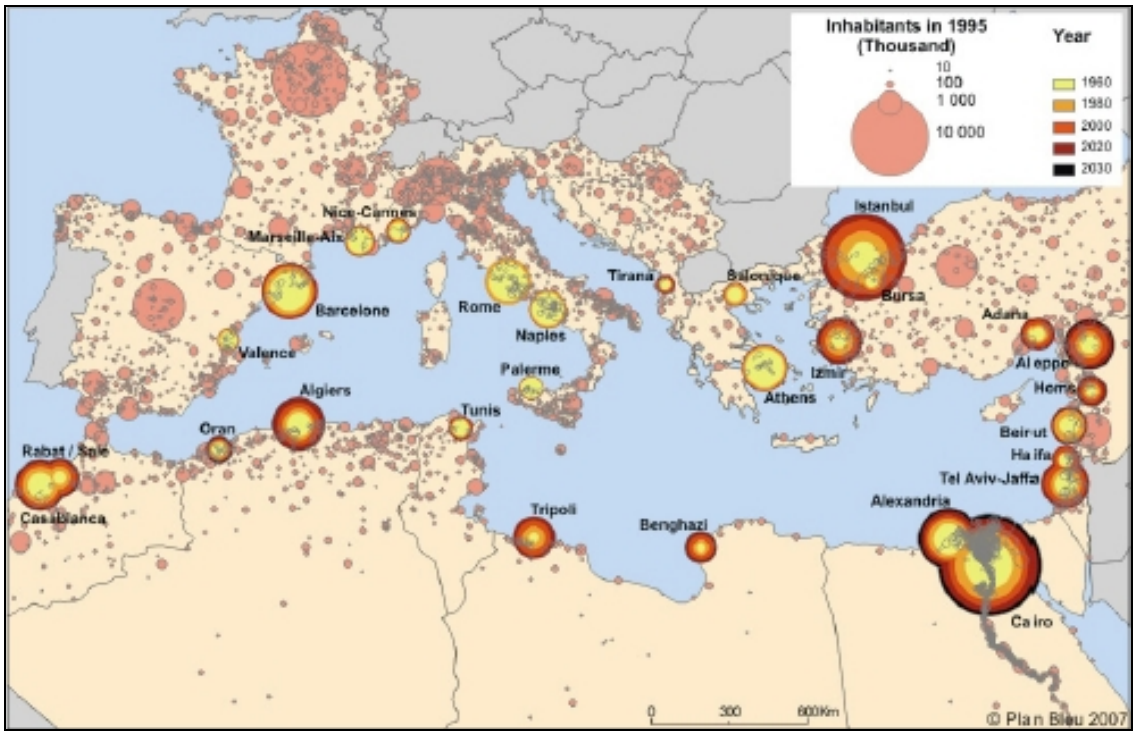


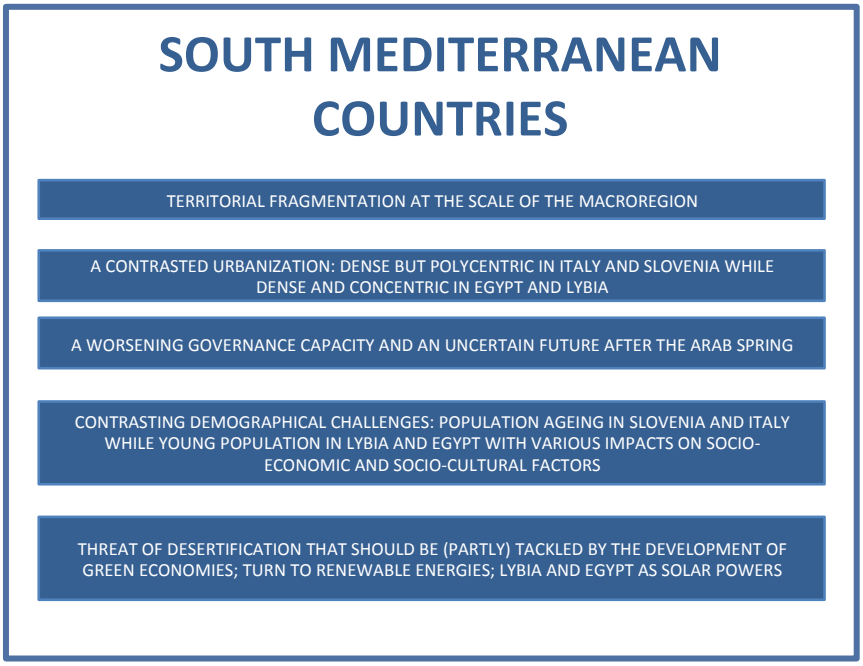
Figure 7: Evolution of the cities of Mediterranean countries. Projections 2030 **(Plan Bleu**, 2008)

The MSSD develops a specific vision on the development of the Mediterranean Sea targeting the "*Uncluttering*" of the coastal zones by refocusing tourism development to the benefit of the hinterland, adopting a modal approach to transport favouring sea and rail, re-channelling urban development into more appropriate areas and breathing new life into the hinterland. In this perspective, a set of priorities is imagined such as:

- Giving greater priority in the SEMCs in particular to **developing small and medium scale agriculture**, in order to allow more families to escape poverty and to contribute to the food security of their country. An option also promoted by the PEMM.
- **Favouring high quality food production** in line with Mediterranean cultural and gastronomic traditions as well as organic produce, by giving them suitable promotion on domestic and foreign markets.
- **Encouraging water and energy-friendly production and technology**.
- **Encouraging the diversification of the rural economy** towards products and services apart from agricultural ones, which are water, transport and energy friendly, for example by developing medium and long term tourism and stays in the hinterland.
- **Allowing plant and animal migration from their distribution zones, thereby avoiding the collapse of biodiversity as a result of climate change**. Limiting area break-up and re-creating green corridors to this end.
- **On coasts which are already largely built-up, repairing and restoring ecosystems, landscapes and buildings would be the primary objectives**. Where there are still no extensive built-up areas on the coast, more innovative anticipatory strategies would lead to less costly development patterns in the long term. On coasts with a marked industrial and international trade vocation, improving transport systems would be the priority. Others would, on the contrary, opt for creating territorial added value by playing their quality joker and promoting the "character" of their region and synergy between tourist and productive activities (fishing and agriculture), even though this may reduce accessibility and urbanisation.

- A common objective to all coastal areas **could be to halt continuous linear urban development, by introducing green, agricultural and wooded areas, and favouring transversal road access to the sea** rather than building coastal roads.

3.4. SOUTH MEDITERRANEAN COUNTRIES[9]



As already pinpointed by the IPEMED, the Mediterranean Sea Region is facing a threat of territorial fragmentation by 2050. In this specific macro-region of the South Mediterranean countries, i.e. Egypt, Italy, Libya and Slovenia, this trend appears also as a merging process between a set of issues:

- **A contrasted urbanization process**: dense but polycentric in Italy and Slovenia while dense and concentric in Egypt and Libya. This trends is however heterogeneous: the urbanization rate will be lower than the World average in Egypt and Slovenia; this last Country should keep a lively rural life whilst Italy and Libya should confront a massive urbanization by 2050 with rates higher than 80%. This trend will involve an increasing pressure on the coastal areas in Libya while in Italy this should impact the global quality of the environment. The initiatives taken in the vicinity of the Plan Bleu might manage such issues especially through the promotion of eco-friendly cities.
- **A worsening governance capacity** and an uncertain future after the Arab Spring. As pinpointed by POLIMI, the rule of law index calculated by the World Bank[10] "*shows a decreasing trend for the 1995-2010 period in all the 4 countries belonging to the present Macro-Region*". Such a tendency seems to underline a more individualistic society as well as a bigger consciousness of uncertainties and risk. This emphasises the necessity of the development of new means of governance or, as shown in the 2011 Arab Springs, a change in political regimes.

[9] Adapted from POLIMI (Roberto Camagni, Roberta Capello, Andrea Caragliu & Ugo Fratesi)

[10] The 'Rule of law' index " *captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence* (http://info.worldbank.org/governance/wgi/pdf/rl.pdf).

- **Contrasting demographical challenges**: population ageing in Slovenia and Italy while young population in Libya and Egypt with various impacts on socio-economic and socio-cultural factors. The European ageing population will challenge public accounts, the healthcare systems, the labour markets as well as the countries' societies and cultures. This commands specific visions for these societies, one possible option being improved synergies, notably on the labour market, in the broad Mediterranean Sea Region, as suggested by the IPEMED.
- **The technological development of the zone** remains a critical issue, especially due to a strong fragmentation between European countries and North-African Countries. As suggested in the context of the VASAB where a comparable issue emerged a strategy for a global technological equilibrium of the zone might be pursued.
- **A threat of desertification** that should be (partly) tackled by the development of green economies; a shift towards renewable energies and a possible rise of Libya and Egypt as "solar powers". However, the desertification process might have dramatic consequences on Egypt and Libya, both countries already suffering because of weak agricultural sectors. The rising sea levels might also have important consequences on coastal areas where the majority of the Libyan population should live. Italy and Slovenia should meet targets of the green economy with rising renewable energies and reduction of consumption. In good governance condition, Libya and Egypt should manage technological improvement and could benefit from investment in the future solar energy market.

3.5. EASTERN EUROPE[11]

Eastern Europe will face important changes by 2050. There is no proper Vision defining the situation of a supranational macro-region by that time. However some trends could be identified at various levels for a set of countries of Eastern Europe, i.e. Poland, Ukraine, Belarus. Some of those trends are congruent with other observed in Europe while others identify a clear future mismatch between Western European and Eastern European territorial structures.

- **A contrasted urbanization process.** The transformation of political and economic systems towards market economy led to greater inter- and intraregional disparities.

[11] Adapted from SGH (Jacek Szlachta)

This trend should reinforce in the coming decades with increasing pressures on capital cities and major urban centres. The development of polycentric urban structures at the national scale should counterweight such trends especially in Poland. The management of urban sprawl will rise as a crucial issue for local policies.

- **The development of transport infrastructure should manage the territorial disparities.** In Poland, the connections between metropolitan regions should support a socio-economic growth as well as the improvement of the overall quality of public transports. The quality of transportations between Ukraine and, to a lesser extent, Belarus between the main urban centres and the European Union should improve.

- **Transnational relations between the countries of the zone should dramatically increase.** Thanks to investments made under the Neighbourhood and Partnership Instrument, the number of border crossing points should increase, and their equipment and capacities will be sufficient to handle the existing traffic streams.

- **An improved yet decentralized territorial governance.** The contrasting integration trajectories of these countries should lead to diverse governing situations. Poland should match the current multilevel governance standards and improved the quality of its administration. Ukraine and Belarus should introduce independent territorial governments, decentralize public finance and develop civil society institutions.

- **A shrinking population**. The cumulated effects of an ageing population, a low birth rate and of negative migration balances should lead to shrinking populations, with important territorial and socio-economic impacts.

- **Environment**. Until 2050 those countries should improvement the overall condition of their natural environment. Poland and Ukraine should difficulty comply with the expected reductions of greenhouse gas emissions and the increasing share of renewable energy.

3.6. DANUBIAN COUNTRIES[12]

The Danubian countries present a contrasting ensemble gathering a set of dissimilar situations and, as Eastern European countries, important inter and intra regional disparities. No vision currently exists at the level of this macro-region.

- **The general governance structure is contrasted**. Five countries of the region are members of the European Union (Czech Republic, Slovakia, Hungary, Romania and Bulgaria), and 7 not (Croatia, Serbia, Bosnia-Herzegovina, Montenegro, FYROM, Kosovo and Moldova). However, the population number of member states is twice that of the non-members. In addition, the relation of the region's countries to the EU is very different: some are already members of the euro-zone (Slovakia) whilst others tend to enter it (the Czech Republic and Hungary); some are not members of the Schengen zone (Romania and Bulgaria), while other are on the entry gate like Croatia or at an early stage of negotiation (Serbia, Bosnia-Herzegovina, Macedonia and Montenegro). An integration of all the countries of the zone to the European Union is therefore desirable.
- **Intraregional disparities are important.** There are regions that for twenty years gradually lagging behind the other parts of countries, their old relations and foreign trade (with the former Soviet Union and former Yugoslavia) ceased and they cannot replace them with another now. The economic differences between the countries and the former EU member states compared to the last twenty years slightly declined, however they are constantly increasing between regions. **A balanced economic development and employment appears as a crucial point to envision.**
- **An overall external dependency of the Danubian Region.** Foreign Direct Investment, the distribution of financial capital and the general process of EU integration are characterised by the persistent, one-sided dependency of the region's countries on core Europe, and this relationship is *de facto* self-reinforcing. In energy supply, Russia also plays a notable role as the main (in some cases sole) supplier of energy, particularly natural gas.

[12] Adapted from RCERS HAS (Ivan Illes, Katalin Süle, Éva Szárazi, Zoltán Grünhut, Zoltán Gál, Gábor Lux)

- **The urbanization process is still dominated by a concentration trend.** It is a general phenomenon in the region's countries that the vast majority of economic activities are concentrated in the capital cities; they are services, finance, banking, trading, research, higher education, cultural, publishing, communication in large part. The capital cities are by far the most important centres of rail, road and air transport; the other cities are much more difficult and more slowly can be accessed by means of transport. **A polycentric and decentralized dynamic should improve the global dynamic of the zone.**
- **The integration of the countries of the zone in transnational dynamics remains confronted to barriers.** While they are all aware that their good relations with each other, good neighbourhood relations and cooperation are also important preconditions of their EU integration and also perhaps the most important area of their commercial relations but still this relationship is overshadowed by some tensions, some factors blocking the connections that may hinder, delay, make difficult or even prevent some countries' EU integration.
- **The impact of climate change on the region should be important:** Deteriorating water quality (higher risk of algal bloom, salinisation, intensifying eutrophication of lakes and wetlands), increasing distribution of invasive species, harm to natural biodiversity, including loss and extinction of plant and animal species. It is envisioned that international cooperation in river basin management should improve the situation. Key targets appears such as: the protection of remaining natural and wetland areas or the development of an ecological network that can safeguard migration of species and habitats and the restoration of floodplains and wetland area.

3.7. GERMANY AND ALPINE COUNTRIES[13]

The Central and Alpine macroregion (Austria, Switzerland and Germany) is not the object of a specific and shared territorial vision on spatial development. Despite this, a couple of countries developed, at a national scale, quite abstract models ("Leitbilder") for the spatial development of their territories.

3.7.1. The Raumkoncept Schweiz

In Switzerland a spatial concept called *Raumkonzept Schweiz* is under development. It is organized on a set of issues and values common with the ones encountered so far in various European macro-regions:

- The very advanced draft states that the principles of **sustainable development** are guiding the concept.
- The spatial concept is expected to contribute to the **maintenance and the enhancement of typical qualities and locational advantages of the country**, which includes the huge variety of living spaces, economic areas and landscapes. However, additional development should take place only in built-up areas to bring urban sprawl to an end.
- The territorial vision is **an enhanced polycentric spatial development pattern**, which is expected to contribute to increased competitiveness and to enhance territorial cooperation and partnerships.

[13] Adapted from S&W (Klaus Spiekermann and Michael Wegener)

- **The Swiss territory will be organised in twelve so-called “action spaces”** of which four are metropolitan areas, three are characterised by medium-sized towns and three are alpine regions.

3.7.2. The Leitbilder der Raumentwicklung (Germany)

In Germany, a spatial concept called "Leitbilder der Raumentwicklung" was developed in 2006). The spatial concept included three main spatial visions following different objectives:

- **The concept "Growth and innovation"** mainly asks for the organisation of the territory from the viewpoint of large metropolitan regions in Germany.
- **The concept "Maintaining essential services”** understands spatial development as the safeguarding of a urban system of central places, in particular in areas facing population decline.
- **The third concept “Preserving resources, designing cultural regions”** is influencing spatial development by focussing on the values of open space and by putting emphasis on the development of different types of cultural landscapes.

Foreseeable conflicts between the three concepts are not solved in the document. The spatial concept is currently in the process of being updated and amended by two new spatial models ("Leitbilder") taking account of new developments and needs (BMVBS, 2012). One of the new concepts will be concerned with climate and energy, the other with mobility and logistics. The spatial vision related to this enhancement is still an open question.

ET2050

Key Territorial References and Sources in the Vision Design Process

Northwestern Europe

Albrechts L. & al. 2007 Inventarisatie van de voor het Vlaams ruimtelijke beleid relevante ruimtelijke ontwikkeling in de buurregio's en op transnational niveau. Opdrachtgever: Afdeling Ruimtelijke Planning - Departement RWO – Vlaamse overheid

Buléon P., Shurmer-Smith J-L. 2011 Cross-Channel Atlas Espace Trans-Manche funded by the INTERREG IIIB NWE EMDI project - 'Espace Manche Development Initiative'

Conférence Européenne des Ministres de l'Aménagement du Territoire du Conseil de l'Europe CEMAT/CoE 15th Session Future challenges: Sustainable spatial development of the European Continent in a changing world National reports.

Conference of Peripheral Maritime Regions CPMR of Europe 2005 Atlantic Spatial Development Perspective.

Conférence Permanente du Développement Territorial CPDT 2011 Diagnostic territorial de la Wallonie

Délégation à l'Aménagement du Territoire et à l'Action Régionale DATAR, Préfecture de la Région Nord – Pas-de-Calais, Mission Interministérielle et Interrégionale d'Aménagement des Pays du Nord 2002 Pays du Nord - Contribution de l'Etat à de nouveaux enjeux interrégionaux, Paris, La Documentation française.

Délégation interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale, DATAR 2011 Etat des lieux et problématiques de 7 systèmes spatiaux. Revue Territoires 2040 n°3

Délégation interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale, DATAR Observatoire des territoires

ESPON 2006 Programme 2005 ECP Transnational Networking-ESPON going regional– Synthesis Report

ESPON 2013 Programme 2011 TranSMEC Transnational Support Method for European Cooperation Targeted Analysis 2013/2/7 Draft Final Report

ESPON 2013 Programme 2010 METROBORDER Cross-border Polycentric Metropolitan Regions.

Evans N. – CUDEM 2005 Study No 4 - Synthesis Report, Towards a Strategic Framework for Action, NWE-ENO, Leeds Metropolitan University.

Gouvernement wallon 1999 Schéma de Développement de l'Espace Régional

INTERREG IVB Atlantic Area Programme 2007 Operational Programme, Atlantic Area Transnational Cooperation 2007-2013

INTERREG IVB North West Europe Programme 2007 Transnational territorial co-operation - Operational Programme 2007-2013 for North West Europe

INTERREG IVB North West Europe Programme 2007 Opportunities for Territorial Change- INTERREG IIIB North West Europe Programme retrospective 2002-2008

INTERREG IVB North Sea Region Programme 2007 The Interreg IVB North Sea Region Programme – Investing in the future by working together for a sustainable and competitive region. Operational Programme North Sea Region Programme 2007-2013.

Ministère de la Région de Bruxelles-Capitale 2002 Plan Régional de Développement PRD

Ministerie van Infrastructuur en Milieu 2011 Ontwerp Structuurvisie Infrastructuur en Ruimte – Nederland concurrerend, bereikbaar, leefbaar en veilig

National Spatial Strategy for Ireland 2002-2020 - People, Places and Potential.

Scottish Government 2009 National Planning Framework for Scotland.

Stumm T. / Eureconsult, van Run P. / Panteia 2010 Ex-Post Evaluation of INTERREG 2000-2006 Initiative financed by the Regional Development Fund ERDF - INTERREG IIIB North West Europe

Vision Working Group, PLANCO Consulting GmbH 2000 NorVision – A Spatial Perspective for the North Sea Region.

Vlaamse Overheid 2009 Vrind 2009 – Vlaamse Regionale Indicatoren.

Vlaamse Overheid 2011 Ruimtelijke Structuurplan Vlaanderen officieus gecoördineerde versie

Baltic Sea and Northern Peripheries

Baltic Development forum 2009 Baltic Sea Agenda - “Northern European Knowledge Market Creating a single market for knowledge in the Baltic Sea Region” 2009

Baltic Development forum, European Investment Bank and Nordic Council of Ministers: “State of the region reports”; i.e. State of the region report 2011: The Top of Europe’s Quest for Resilience: A Competitive Region Facing a Fragile Global Economy

Baltic Development forum. Annual Summits; i.e. 2011 Summit meeting material - i.e Political State of the Region Report 2011

Communication from the Commission to the European Parliament and the Council - 2008 The European Union and the arctic region

EU Strategy for the Baltic Sea Region 2009 Action Plan - Working document accompanying the Communication concerning the European Union Strategy for the Baltic Sea Region - SEC2009 712 - December 2010 update

EU Strategy for the Baltic Sea Region 2009 Communication - concerning the European Union Strategy for the Baltic Sea Region - 10.6.2009

EU´s Arctic Policy European External Action Service 2009 Council Arctic Conclusions in December 2009

EU´s Arctic Policy European External Action Service 2009 Draft Report on a sustainable EU policy for the High North.

European Union 2010: The EU Strategy for the Baltic Sea Region: Background & analysis

Gløersen E. et al 2005: Northern peripheral, sparsely populated regions in the European Union. Nordregio Report 2005:4

Gløersen E. et al 2009: Development opportunities for the NSPA: Opportunities and challenges. Analytical report. Nordregio Electronic Working Paper 2009:3

Hanell, Tomas & Neubauer, Jörg 2005: Cities of the Baltic Sea Region - Development Trends at the Turn of the Millennium. Nordregio Report 2005:1

Nordic Council of Ministers 2010 Arctic Social Indicators - A follow-up to the Arctic Human Development Report. Nordic Council of Ministers, TemaNord 2010:519

Nordic Council of Ministers 2010 European Union and the Arctic - Main developments July 2008–July 2010, ANP 2010:763

Nordic Council of Ministers 2011 Megatrends in the Arctic. Nordic Council of Ministers, TemaNord 2011:527

Northern Dimension ND European External Action Service 2006 ND Political Declaration

Northern Dimension ND European External Action Service 2006 ND Policy Framework

Schmitt, Peter & Dubois, Alexandre 2008: Exploring the Baltic Sea Region - On territorial capital and spatial integration. Nordregio Report 2008:3

The Northern Sparsely Populated Areas NSPA 2010 Political Statement Summary

VASAB 2009 Long-Term Perspective for the Territorial Development of the Baltic Sea Region VASAB 2010 Plus

VASAB 2009 Long-Term Perspective for the Territorial Development of the Baltic Sea Region – Background synthesis document

VASAB: Wismar Declaration on transnational spatial planning and development policies for the Baltic Sea Region to 2010

Germany and Alpine Countries

Bundesamt für Bauwesen und Raumordnung 2005: Raumordnungsbericht 2005. Berichte 21.

Bonn:BBR

Bundesamt für Raumentwicklung 2005: Raumentwicklungsbericht 2005. Bern: ARE.

Bundesamt für Raumentwicklung et al. 2010: Raumkonzept Schweiz. Entwurf für die tripartite

Konsultation. Bern: ARE.

Bundesinstitut für Bau-, Stadt- und Raumforschung 2009: Raumordnungsprognose 2025/2050.

Berichte 29. Bonn: BBSR.

Bundesministerium für Verkehr, Bau- und Wohnungswesen 2003: Bundesverkehrswegeplan

2003. Grundlagen für die Zukunft der Mobilität in Deutschland. Berlin: BMVBW.

Bundesministerium für Verkehr, Bau und Stadtentwicklung 2006: Leitbilder und

Handlungsstrategien für die Raumentwicklung in Deutschland . Berlin: BMVBS.

European Environment Agency 2011: BLOSSOM – Bridging long-term scenario and strategy analysis: organisation and methods - Austria country case study. EEA Technical report, No 5/2011. Copenhagen: EEA.

European Environment Agency 2011: BLOSSOM – Bridging long-term scenario and strategy analysis: organisation and methods - Germany country case study. EEA Technical report, No 5/2011. Copenhagen: EEA.

Göddecke-Stellmann, J., Kawka, R., Lutter, H., Pütz, T., Schmidt-Seiwert, V., Schön, K.P.,

Spangenberg, M. 2011: Metropolitan areas in Europe. BBSR-Online-Publikation 01/11. Bonn: BBSR.

Hanika, A., Kytir, J., Biffl, G., Wisbauer, A. 2011: ÖROK-Regionalprognosen 2010-2030. Modellrechnung bis 2050. Bevölkerung, Erwerbspersonen und Haushalte in den NUTS3 Regionen und Bezirken Österreichs. Schriftenreihe Heft 184.Wien: ÖROK.

Kujath, H.-J., Zillmer, S., Pflanzl, K., Böhme, K., Muschwitz, C., Spiekermann, K. 2009: Deutschland in Europa. Ergebnisse des ESPON Programms 2006 aus deutscher Sicht.

Forschungen 135. Bonn: Bundesinstitut für Bau-, Stadt- und Raumforschung BBSR.

Österreichische Raumordnungskonferenz 2011: Austrian Spatial Developement Concept. Schriftenreihe Heft 185en. Wien: ÖROK.

Österreichische Raumordnungskonferenz 2 009: Szenarien der Raumentwicklung Österreichs 2030. Regionale Herausforderungen und Handlungsstrategien, Schriftenreihe Heft 176.Wien: ÖROK.

Siedentop, S., Gornig, M., Weis, M 2011: Integrierte Szenarien der Raumentwicklung in Deutschland. Ergebnisse eines Ressortforschungsprojektes im Auftrag des Bundesministeriums für Verkehr, Bau und Stadtentwicklung BMVBS und des Bundesinstituts für Bau-, Stadt- und Raumforschung BBSR. Politikberatung kompakt 60. Berlin: Deutsches Institut für Wirtschaftsforschung.

Spiekermann & Wegener 2005: Modelling Regional Development in AlpenCorS: Scenario Results. Deliverable D5 of InterregIIIB project Alpen Corridor South. Dortmund: Spiekermann & Wegener.

Tappeiner, U., Borsdorf, A., Tasser, E. 2008: Alpenatlas / Atlas des Alps / Atlante delle Alpi / Atlas Alp / Map-ping the Alps: Society - Economy - Environment. Heidelberg: Spektrum Akademischer Verlag.

Eastern Europe

Adamski, L. (2009) Eastern Partnership and EU Policy towards Belarus, PISM, Warsaw

Arcipowska, M., Wojna, B. (2011) European Neighbourhood Policy: How to Reconcile EU's Offer with Neighbour's Expectations, PISM Policy Papers, Warsaw.

European Commission (2006) Crossborder Cooperation Programme Poland-Belarus-Ukraine 2007-2013, Brussels 6 November 2006, Decision k(2008)6411.

European Commission (2007) European Neighbourhood and Partnership Instrument. Belarus. Country Strategy Paper 2007-2013 and National Indicative Programme 2007-2011, Brussels

European Commission (2009) Regional Development in EU: Lessons for Ukraine, Brussels, EuropeAid/125234/C/SER/UA

European Commission (2009) Support to Sustainable Regional Development in Ukraine I. Position Paper, Brussels, 2009, EuropeAid 125234/C/SER/UA

European Commission (2010) Analysis of Territorial Typology of Ukraine. Maps and analysis of Indicators, Brussels, EuropeAid 125234/C/SER/UA

European Commission (2010) Strategic Framework and Plan of Implementation of the State Strategy, Brussels, EuropeAid/125234/C/SER/UA

European Commission (2011) European Neighbourhood and Partnership Instrument. Belarus. National Indicative Programme, Brussels

European Commission (2011) Support to Sustainable Regional Development in Ukraine II, Draft Final Report, Brussels, Contract 2010/258225/C/SER/UA

Kravciv, V. Storonyanska, I.(2009) Disproportions of Regional Development in Ukraine, 3rd Central European Conference in Regional Science – CERS 2009

Ministry of Regional Development (2006) Poland. National Strategic Reference Framework 2007-2013 in support of growth and jobs, Warsaw.

Ministry of Regional Development (2010) National Strategy of Regional Development 2010- Regions, cities, rural areas, Warsaw

Ministry of Regional Development (2011) National Spatial Development Concept 2030 for Poland. Warsaw (currently only polish version), when approved by the Council of Ministers will be translated on English)

Prime Minister Office (2009) Poland 2030. Development Challenges, Warsaw

Danubian Countries

Ascherson, Neal 1996: Schwarzes Meer.Berlin Verlag Berlin

Barta, Gy. – Kukely, Gy. 2008: Re-industrialisation in the world and in Hungary. European Spatial Research and Policy. 2. pp. 5–26.

Bartholy, J. – Pongrácz, R. – Gelybó, Gy. 2007: A 21. század végén várható regionális éghajlatváltozás Magyarországon. [Predicted regional climate change by the end of the 21st century].– Földrajzi Értesítő. 3–4. pp. 147–168.

EU Strategy for the Danube Region, http://ec.europa.eu/regional_policy/cooperate/danube/index_en.cfm

Fodor, I. 2008: Environmental management, risk prevention, natural and cultural heritage in the Carpathian area. In: Gál, Z. – Rácz, Sz. (eds.) 2008: Socio-Economic Analysis of the Carpathian Area. Pécs, Centre for Regional Studies of the Hungarian Academy of Sciences. pp. 33–44. (Discussion Papers, Special).

Gál, Z. – Rácz, Sz. (ed.): Socio-Economic Analysis of the Carpathian Area. Pécs: Centre for Regional Studies of the Hungarian Academy of Sciences, 2008. 177 p. (Discussion Papers, Special).

Gál, Z. – Sass, M. 2009: Emerging new locations of business services: offshoring in Central and Eastern Europe. – Regions, 274. Summer. pp. 18–22.

Gál, Z. (ed.) : Role of the Regions in the Enlarging European Union. Pécs, Centre for Regional Studies. (Discussion Papers, Special).

Gál, Z. 2003: Bruchlinien in der Region Donautal: die Rolle der Donau in der mittelsüdosteuropäischen historischen und Raumentwicklung. In: Huszár, Z. – Vándor, A. – Walterné Müller, J. (Red.): 2000 Jahre entlang der Donau. Aus der gemeinsamen Vergangenheit in die gemeinsame EU-Zukunft. Pécs, Direktion der Museen des Komitates Baranya, Janus Pannonius Museum, pp. 295–324.

Gál, Z. 2003: Danube. In: Mokyr, J (ed.): The Oxford Encyclopedia of Economic History. Vol. 2. Oxford, Oxford University Press. pp. 65–66.

Gál, Z. 2007: Ruptures of the Danube regions. Territorial cooperation as a playground of European integration. In: Milford, S. – Tarrósy, I. (eds.): The Future of Europe – the View from the Danube Region. Vienna, Publikon Books. pp. 95–110.

Gál, Z: The Danube region – past, present and future prospect of transnational co-operation as a playground of the European integration. – Eurolimes. Journal of the Institute for Euroregional Studies. 7. pp. 148–158.

Giamouridis, Anastasios – Paleoyannis, Spiridos 2011: Security of Gas Supply in South Eastern Europe. (Potential Contribution of Planned Pipelines, LNG, and Storage) The Oxford Institute for Energy Studies. July. NG 52.

Gligorov, V. et al. 2008: Western Balkan Countries: Adjustment Capacity to External Shocks, with a Focus on Labour Markets, Vienna Institute for International Economic Studies, Vienna.

Havlik, P. 2005: Central and East European industry in an enlarged European Union: Restructuring, specialisation and catching-up. – Économie Internationale. 102. pp. 107–132.

Horváth, Gy. – Hajdú, Z (eds.) 2011: Regional Transformation Processes in the Western Balkan Countries. Pécs, Centre for Regional Studies of Hungarian Academy of Sciences. http://www.icpdr.org/icpdr-pages/industry.htm

Illés, I. 2008: Visions and Strategies in the Carpathian Area (VASICA). Discussion Papers 2008. Special Issue -

Lux, G. 2008: Industrial development, public policy and spatial differentiation in Central Europe: Continuities and change. Pécs, Centre for Regional Studies. (Discussion Papers, 62).

Lux, G. 2010: Location differences of services and industry: A Central European dichotomy. – Prace Komisji Geografii Przemysłu 16, pp. 29–37. http://www.prace-kgp.up.krakow.pl/pdf/ptg16/lux16.pdf [05.10.2011].

PlaNet CenSE 2006: Metropolitan Networking in CenSE backed by North-South Rail Corridors. Final Report of the Pilot Projects. Österreichisches Institut für Raumplanung, Wien.

Turnock, D. 2001: Location trends for foreign direct investment in East Central Europe. – Environment and Planning C: Government and Policy. 6. pp. 849–880.

Turnock, D. 2002: Ecoregion-based conservation in the Carpathians and the land-use implications. Land Use Policy, Vol. 19. pp. 47–63.

World Wildlife Fund for Nature, 2000: The Carpathians: Final Reconnaissance Report. Vienna, WWF.

Southwestern Europe

Bellet C; Alonso P; Casellas A 2010. Transport Infrastructure and territory. The structural effects of the high-speed train in Spain. Universitat de Lleida

CEMAT 2000. Guiding Principles for Sustainable Spatial Development of the European Continent.

CEMAT 2010. 15th Council of Europe Conference of Ministers responsible for spatial/ regional planning. European Union

Chevalier C 2005. Governance of the Mediterranean Sea. Outlook for the Legal Regime. The World Conservation Union.

EuroMed Transport Project 2005. Blue paper. Towards an Integrated Euro-Mediterranean Transport System.

Free University of Brussels - IGEAT 2007. ESPON Project 3.2 - Spatial scenarios in relation to the ESDP and EU Cohesion Policy. European Union.

Free University of Brussels – IGEAT 2010. ESPON FOCI - Future Orientation for Cities. European Union.

Gesano G.Heins F; Regional 2009. Challenges in the perspective of 2020. Regional disparities and future challenges.

Innobasque 2010. ESPON ReRISK - Regions at Risk of Energy Poverty. European Union.

Institut Català de la Mediterrània 1995. Towards a New Scenario of Partnership in the Euro-Mediterranean Area

Institut Català de la Mediterrània 1999. El Espacio Mediterrnáneo Latino.

Institut Europeu de la Mediterrània 2010. Med 2010. Anuari IEMEd de la Mediterrània.

Institute for Development Policy; Management University of Manchester 2005. Scenarios for trade integration between the EU and Mediterranean Partner Countries. Euro-mediterranean free trade area.

Labein-Tecnalia- Technology Centre 2013. ESPON EU LUPA - European Land Use Patterns. European Union.

Nasr Z; Almohammed H; Gafrej Lahache R; Maag C; King L 2008. Drought modelling under climate change in Tunisia during the 2020 and 2050 periods.

Netherlands Interdisciplinary Demographic Institute NIDI 2010. ESPON DEMIFER - Demographic and Migratory Flows Affecting European Regions and Cities. European Union.

Plan Bleu 2005. A sustainable future for the Mediterranean.

Plan Bleu 2007. Rural Areas. Blue Plan Notes

Plan Bleu 2007. Urban Areas. Blue Plan Notes

Plan Bleu 2010. Infrastructures and sustainable energy development in the Mediterranean: 2025 outlook. Plan Bleu, Valbonne, 2010 Blue Plan Papers 6.

Plan Bleu 2010. Maritime Transport of Goods in the Mediterranean. Plan Bleu, Valbonne, 2010 Blue Plan Papers 7.

Plan Bleu 2010. Urban mobility and sustainable development: Regional diagnostic outlook. Plan Bleu, Valbonne 2010. Blue Plan Papers 9.

Polytechnico di Milano 2010. ESPON SS-LR - Spatial Scenarios: New Tools for Local-Regional Territories. European Union.

Polytechnics of Milan – DIG 2010. ESPON TIPTAP - Territorial Impact Package for Transport and Agricultural Policies. European Union.

Sophia Antipolis 2004. Climate Change and Energy in the Mediterranean. Plan Bleu

Tourret J; Wallaret V 2008. Méditerranée 2030. 4 scénarios pour les territoires méditerranéens. Institut de la Méditerranée.

Tourret JC; Wallaert V 2010. MedGovernance Project. 3 Scenarios for a Mediterranean Macro-Regional Approach. Institut de la Méditerranée.

TU Dortmund University 2011. ESPON CLIMATE – Climate Change and Territorial Effects on Regions and Local Economies en Europe. European Union.

United Nations Environment Programme 2006. The Blue Plan's sustainable development outlook for the Mediterranean. Plan Bleu

United Nations Environment Programme 2008. The Blue Plan's sustainable development outlook for the Mediterranean. Plan Bleu

University of the Highlands and Islands 2010. ESPON EDORA - European Development Opportunities in Rural Areas. European Union

World Bank 2006. Is there a New Vision for Maghreb Economic Integration?

Xenidis L; Martínez N; Prokova A 2009. Rural community in the Mediterranean Region in 2030: Projections and future scenarios. Climate Change and Social Change.

South Mediterranean Countries

"Fiscal policy: lessons from the crisis", Banca d'Italia Workshops and Conferences, Papers presented at the Banca d'Italia workshop held in Perugia, 25-27 March, 2010

"Libya after Qaddafi", The Economist, Oct 29th 2011.

African Economic Outlook 2011. "Egypt Full Country Note"

African Economic Outlook 2011. "Libya Full Country Note"

Bank of Slovenia Financial Stability Review May 2011

Central Bank of Egypt Annual Report 2009-2010

Elliesie, H. 2010. "Rule of law in Egypt", in Matthias Koetter and Gunnar Folke Schuppert eds., Understandings of the Rule of Law in various Legal orders of the World, Rule of Law Working Paper Series Nr. 5, Berlin ISSN 21926905:

European Commission's Country recommendations for Slovenia July 2011

Mobbs,. P. M. 2002. "The mineral industry of Libya", in "2001 US geological survey minerals yearbook"

OECD Economic Surveys: Slovenia 2011

Smith, D.M. 1997. "Modern Italy: a political history", Ann Arbor MI: University of Michigan Press.

Uppenberg, K. 2009. "The knowledge economy in Europe", Review of the 2009 EIBConference in Economics and Finance

Wolff, G. B. 2011. "The Euro Area crisis: policy options ahead", Paper prepared for Resolving the European Debt Crisis, a conference hosted by the Peterson Institute for International Economics and Bruegel, Chantilly, France, September 13-14, 2011

World Bank 2006. "Socialist People's Libyan Arab Jamahiriya Country Economic Report", Report No. 30295-LY

World Bank 2011. "Doing business economic profile Egypt"

South Eastern Europe

Commission of European Communities (CEC) (2008). 'Regions 2020: An Assessment of Future Challenges for EU regions. Brussels

Commission of European Communities (CEC), (2007b). 'Extension of the Major Trans-European Transport Axes to the Neighbouring Countries Guidelines for Transport in Europe and Neighbouring Regions'. Brussels: Official Publications of the EC, 31.01.2007 COM (2007) 32 Final.

Commission of European Communities (CEC), (2007c). 'Trans-European networks: Towards an Integrated Approach'. Brussels: Official Publications of the EC, 21.03.2007 COM (2007) 135 Final.

ESPON & Innobasque (2010). ESPON ReRISK - Regions at Risk of Energy Poverty. European Union.

ESPON & IRPUD, TU Dortmund University (2011). ESPON CLIMATE – Climate Change and Territorial Effects on Regions and Local Economies en Europe. European Union.

ESPON & Netherlands Interdisciplinary Demographic Institute (NIDI) (2010). ESPON DEMIFER - Demographic and Migratory Flows Affecting European Regions and Cities. European Union.

ESPON & ULB, IGEAT (2011). ESPON TIGER - Territorial Impact of Globalization for Europe and its Region (Interim Report). European Union

ESPON ESaTDOR (2012). Coastal and Marine Governance Briefing Paper. University of Thessaly.

European Communities (EC), (2004). 'Interim Territorial Cohesion Report (Preliminary results of ESPON and EU Commission Studies)', DG Regional Policy, Luxembourg: Office for Official Publications of the European Communities, 2004. Available on World Wide Web at: http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/coheter/coheter_en.pdf

European Union (EU), (2011). 'EU Transport in Figures 2011'. Luxembourgh: European Union Publications, 2011. Available on World Wide Web at: http://ec.europa.eu/transport/publications/statistics/doc/2011/pocketbook2011.pdf

Fay, M., Block, R.I. & Ebinger, J. (eds.) (2010) Adapting to Climate Change in Eastern Europe and Central Asia, Washington DC: The International Bank for Reconstruction and Development / The World Bank

Institut de Prospective Economique du Monde Mediterraneen (IPEMED) (2010). Tomorrow, the Mediterranean Scenarios and projections for 2030 : growth, employment, migration, energy, agriculture. Mediterranean 2030 Consortium.

Plan Bleu (2000). Mediterranean Vision on water, population and the environment for the 21st Century, Global Water Partnership/Medtac, World Water Vision of the World Water Council

Population Reference Bureau (2001). Population Trends and Challenges in the Middle East and North Africa. Available on World Wide Web at http://www.prb.org/pdf/PoptrendsMiddleEast.pdf

South East Europe (SEE) (2011). 'First Evaluation Report-Draft of South East Europe Programme 2007-2013'. Rotterdam: SEE Programme 2007-2013 Publications, 2011. Available on World Wide Web at: http://www.se-eu.net/en/downloads_section/programme_related_documents/

United Nations Environment Programme (UNEP) (2008). The Blue Plan's sustainable development outlook for the Mediterranean. Plan Bleu

ET2050 Interim Report 2

ANNEX VI - Report on consultations of EU Bodies

Author: IGEAT

April 30th 2013

ESPON 2013 PROGRAMME - ET 2050 Project

REPORT ON CONSULTATIONS OF EU BODIES

17 January 2013

A report on the first round of the Participatory Process (ParP) consultations was included in Chapter 2 of the First Interim Report of the ET 2050 project. Further consultations took place in October, November and December 2012. The main aim was to gather relevant information about the possible future of EU policies. Therefore interviews were organised with officials of various European Commission Directorates-General. It was also envisaged to consult other EU bodies, including the European Parliament and the Committee of the Regions. Nevertheless, it resulted from discussions with the ESPON CU that it would be more appropriate to consult these two bodies at a later stage. Therefore only a member of the European Economic and Social Committee was interviewed.

An interview took place at the following DGs of the EC: DG REGIO (25th Oct.), DG MOVE (6th Nov.), Secretariat General (6th Nov.), DG RTD R&I (13th Nov.), DG ENV (16th Nov.), DG MARE (30th Nov.), DG AGRI (14th Dec.) The member of the EESC was interviewed on 27th November. To encourage free speech, it was agreed with the interviewees that they would remain anonymous.

They were asked to answer two main questions:

1. In an ideal world, how should the EU policy which your DG is responsible for evolve until 2050? ("the long-term policy scenario of your dreams")
2. In the real world, what is, in your view, the most likely evolution of this policy until 2050 ? ("the long-term policy scenario you realistically anticipate").

Apart from these two questions, the interviewees were also encouraged to address other issues of their choice, for example their comments about the ET 2050 work.

A majority of interviewees were rather reluctant to embark on long-term foresight speculation and therefore felt uncomfortable with Question 1. Most conversations revolved around the current situation and the likely evolution of the EU policy which their respective DG is responsible for, often (but not always) based on some strategies or other reference documents published by this DG.

This report synthesizes the outcome of these interviews, supplemented as appropriate by extra material drawn from these strategies / documents. It must be clear that the content of the various sections below does not necessarily address the relevant key-issues exhaustively,

since the various interviewees generally placed the emphasis on issues that are particularly close to their heart. Therefore extra desk research and consultations will remain necessary to better inform the scenario/vision building process with regard to the possible evolution of EU policies.

1. Regional policy

N.B. As a matter of fact, the interviewee expanded on many more aspects than EU regional policy...

Likely evolution of the policy in the "real world"

Projecting in 40 years is a highly speculative exercise. There are a lot of doomsayers saying that we will lose against China and India because they are much more faster-growing… But they are probably just catching up, and their growth will slow down. Europe is not likely to become drastically less affluent in the future. We will not have rocketing growth rates but we do not need sky-high growth rates either. A moderate growth over the next 40 years seems likely.

Are we going to share more poverty? A large part of Europe is extremely affluent, and less developed regions and member states should become more affluent in the future. At what speed? The question seems impossible to answer. Is Poland going to be as affluent as Norway in 40 years? Probably not, but it might be as affluent as Belgium is today, that is an option for 40 years, and 40 years is a long time… Portugal did not perform very well over the past 40 years, but this does not mean it will not in the next 40 years. Some countries will be successfully converting to the EU-average and this average should go up, possibly not very quickly. Some countries which do not succeed in managing their transition to a more globally competitive knowledge economy will suffer.

The EU functioning has changed a lot over the past 40 years and should continue to do so for the next 40 years. There is a very wide spectrum of possible options, for example an extreme version of a multispeed Europe where everybody picks up what he wants and rejects what he dislikes. There is already an embryo of that: opt-outs left for the Euro, for Schengen, etc. It could become more extreme and even come to the extreme that some decide to move out or get kicked out of certain bits: you can already get kicked out of Schengen or the Euro if you do not respect the rules.

The most likely seems to be just 40 years of more "muddling through", incremental reforms. If the crisis is big enough, we will try to fix something, which generally means a bit more coordination but definitively not anything like a federal power. For example, there will be better banking oversight coordination, more oversight on microeconomic instabilities, some more coordination of budgets, all this on an incremental basis.

The frontiers of Europe should not expand much over the next 40 years. It is not sure that Iceland, Norway and Switzerland will actually join the EU, but increased coordination and collaboration can be expected with them. On the eastern frontier, we said to the western Balkans: "when you are ready, we are ready". At least half of them should join in that period, not all, depending on the progress in their institutional framework. Turkey is a wild card. Currently the political framework does not seem to be very supportive. It very much depends on a lot of different changes in political relationships. In principle, no major obstacle should prevent Turkey from joining. It really depends on how people perceive this issue. If they

perceive it as an opportunity for them and for Turkey then it will happen. If they see it as a threat, it won't. Turkey has just as much capacity as the western Balkan to conform to the EU *acquis,* its current interest rate is quite good, it has a functioning democracy, it has a semblance of rule of law. If Turkey joins, it would make a big difference because it is a huge player, a country of the size of Germany, and the threat of an increased inflow of population is there.

Expanding the single market to the Maghreb is not really part of the DNA of Europe; it's not a free trade area. The whole idea behind free-trade is that we only do it because everybody accepts the *acquis*, so in terms of labour rights, in terms of working conditions but also in terms of environment protection, etc. etc. So allowing a wide range of countries into the single market without making sure and controlling that they accept the entire body of the *acquis* – I think it goes against the philosophy of Europe. So clearly said… Morocco has asked for membership in the EU and has been told: "Sorry, you are not part of Europe". We do not see that changing. Schengen and the free mobility inside Europe are very impressive accomplishments. Let us hope they do not go back. A pessimistic scenario would really be the falling apart of considerable progress made in terms of mobility of population. Imposing border controls, blocking labour mobility, etc., would have a huge detrimental effect all over Europe and probably especially on the poorer member states. Then instead of "Fortress Europe", we would go back to "Fortress Member States", a scenario where the biggest horse wins…

A "two-speed Europe" scenario would not accelerate the emergence of a federal state. The more you have opt-outs, the less likely is a core federal state. If a federal state happens, it would happen very slowly and really with the vast majority, the others becoming more like EFTA-countries than anything else.

With regard to demographic trends, we might have to increase retirement age considerably, to make sure that our cities and towns can accommodate more assisted living, etc. but we do not have any objective reason to say that Europe needs to maintain a population of half a billion. There is no reason for that. Population growth is often misunderstood for economic growth, the world is often and strangely seen as a competition to be the biggest. As a matter of fact, the question of "how big is Europe" is for most people's lives relatively irrelevant…

The biggest change which is going to happen in the next 40 years is the complete shift of composition of the population. Eurostat has done a number of projections on the population of foreign born / foreign origins, of first and second generation of immigrants, and that's going to explode over the next coming decades, with many countries ending up in situations where one third to 50 % of the population is of foreign origin (both extra- and intra-European). This will challenge the way a lot of people think about their own country. This could concern Eastern Europe[1] in particular. For Western Europeans, it is not a very attractive place to move to, but for a lot of people from developing countries, Eastern Europe is still a step up, a big step up. So if people from those countries, Chinese or Africans are willing to move there… The

[1] N.B. According to the Commission Communication "The demographic future of Europe – from challenge to opportunity" (COM(2006) 571 final) http://eur-lex.europa.eu/LexUriServ/site/en/com/2006/com2006_0571en01.pdf (table p.16), a sizeable in-migration increase is expected in Eastern Europe indeed, but apparently not more significant than in Western Europe.

complete change of the composition of the population and their origin will really mean that we are much more going to resemble places like the U.S. where you just have to accept the fact that you are a nation of immigrants and not a nation in a cultural or ethnic sense. The challenge for us is: is that going to work or not ? For the time being, our immigrant integration policies are very poor. Will we be able to do much better? If we succeed in integrating these people into our education system, into our labour market and if some of them become flourishing entrepreneurs, this will be a huge success. If we do not, then we will end up with an extremely divided society which in some ways you can see in some cities today. The situation in Brussels is pretty ugly. If you are uneducated and of Moroccan background, and male in Brussels…

Compared with the United States, the vast majority of European regions still have a very low level of in-migration. But in the future, we can imagine a massive growth in retirement communities in Southern Europe. There is no reason why we couldn't have multiple "Floridas". They already exist in Spain, where the majority of the population in some areas is of German or English background, also in France you have retirement communities. With the improvement of health care and infrastructure you could also witness a similar phenomenon appearing in Greece, Rumania, Bulgaria or Southern Italy, provided that a certain amount of quality of life is provided, which is currently not the case.

In terms of workforce mobility, the situation is different. Any extrapolation of current trends is very questionable, because internal mobility within Europe is highly volatile. Already now because of the crisis we witness a lot of reverse migration. Inside Europe, a very significant part of migration is not permanent. They come, they stay a while, and once they think they have enough connections or enough capital to start something back home, they often move back home and vice-versa…

We will see more entrepreneurs who want to move to high growth countries at the periphery to start up their own business, or set up some offshoot. We could expect the outflow from Eastern Europe countries to stop at a certain point. As growth rates, employment rates, and quality of life increase, as business opportunities improve, in-migration can be expected there, not just reverse migration of people who initially came from there and have cultural and linguistic ties, but also other people who want to move there and take advantage of the high growth rates that these countries are hopefully able to sustain over the coming decades.

Future of the cohesion policy

Territorial cooperation is the aspect of cohesion policy where the European dimension is uncontested. Everybody accepts that we need the Union to organise cooperation across national borders. It is also admitted that still many borders are not as invisible as they should be – there are still obstacles for a lot of aspects… Having said that, ETC is also the first area where the member states are happy to cut money... The cross border strand is better accepted, whereas attitudes toward macro-regional / transnational cooperation are still a little bit more ambivalent. But we can take for granted that ETC practice will continue for the next 50 years. This is an important part of the cohesion policy. The main difficulty with it is to demonstrate its impact (small amounts of funding for very integrated and multidimensional strategies). We just do it because we know nobody else will do it, and because we think it is a

good idea, even if we cannot prove it helps! The most likely scenario is that we continue as we do now with relatively small cross-border-programmes with small budgets. Alternatively, or a more ambitious strategy would be to say: you can put all your money in cross-border cooperation if you want, especially in smaller member states, and then you coordinate your spatial development with your neighbours. This would be something that could be offered as an option. We definitely did not do that this time, and we will see next time.

Integration of policies: there is a strong push for this. It is often recommended to move to a functional geography and come up with integrated policies. That is all integrated territorial strategies are really about. However there is considerable administrative resistance to this. It has always been there, a lot of countries prefer national sector programs just because that is how they work, how their ministries are organized and they found it more efficient to do so. In DG Regio, there is a tension between the right thing to do and the easiest thing to administer and to control; and national sector programmes are much easier to administer than integrated territorial ones. A possible scenario for the next 40 years could consist in further devolution and decentralisation in the member states. In Eastern Europe, this means an emergence of a regional tier of government with legitimacy, competences, resources, that could deliver territorial integrated strategies.

Should this happen, we would see indeed less and less national sector programmes and much more programmes that are tailor-made and respond to the business and investment needs of the regions.

But the other extreme for cohesion policy would be: we only give money to the poorest member states, we no longer invest in the more developed ones, we work purely with fiscal transfers and we do not have programs anymore, instead just a stipend for the poor countries. This would mean that we drop the regional policy budget by 50% or 80% and the rest just goes to the poorer member states. If they want to use that to reduce taxes they are free to do so.

What would be the consequences? Probably, it would not help to correct the unbalances in Europe… A policy of fiscal transfers to the poor, is not very popular. So inevitably the budget is going to shrink and be considered as inefficient and a waste of money in any case, so…cohesion policy would slowly disappear.

Thus there are two possible extreme versions of the future cohesion policy: *<promotion of integrated strategies developed and implemented by regional authorities> versus <progressive decline of the EU regional policy, turned into mere financial transfers>.* The tension between these two extremes is likely to remain.

One other possibility – whose embryo is also perceptible in current discussions – is a recentralisation of a number of policies. For example, instead of having national sectoral infrastructure programmes, transport infrastructure programmes, the Commission could get fed up with negotiating with the member states and the resulting delays in the implementation. The response could be to set up an executive agency, which would be responsible for building major infrastructure such as the trans-baltical highway from north to south, instead of giving the billions to the relevant countries. There are people who argue for a much more top down, Brussels-steered, sectoral approach as well…

By the way, if we consider the recent evolution of the trans-European networks, we could argue that the amount of horse-trading has gone down. National administrations progressively realise that the world does not stop at their borders and that, in a way, the European dimension also is their own. This is also a sign of the Commission taking this more seriously an having a stronger say and a stronger analytical capacity to come up with the proposals which make more sense than they did in the past, at least from a transport and economic point of view.

Urban dimension: think about cities and about urbanization. Something is changing and will continue to change in this respect, much more in Eastern than Western Europe. Especially in Eastern Europe, rural areas are very unattractive places to live. Sociologically speaking, the rural areas in Eastern Europe are very different compared to other western rural areas, maybe with the exception of some regions such as Extramadura. The patterns in East and West are diametrically opposed. Our rural regions in Western Europe are growing as fast as, if not faster than urban regions and in the east of Europe it is the opposite. You have population growth in the West, you have population decline in the East.

The question we should examine for 2050 is: "are we converging to a certain stable level of urbanization? or could urbanization be reversing?" Currently in the U.K and in Ireland, you have people moving away from the cities for different lifestyle reasons or whatever. This is a big question: what is going to happen there?

Clues for an alternative "ideal policy"

Primarily a situation where we see the disparities inside of Europe shrink, and shrink by faster improvement in less developed regions and areas in Europe, primarily Eastern Europe and parts of Southern Europe, with improvements not just in GDP, but also in education, employment and access to services.

There are interesting trends in Eastern Europe: economic growth is quite encouraging, the crisis is rather well counteracted, the education profile is good; however, the physical infrastructure is horrendous, transport infrastructure is very poor, access to services like health care is very low, as access to universities, access to decent public transport is just generally low. The ideal would be that all the Eastern Europe countries become more attractive places to live. This does not concern economic aspects only, but also the quality of life (environment including air quality, accessibility of services, etc.) Significant progress has already been made in that direction. In the western more developed member states the ambition could be to maintain a high level of employment and innovation and manage to further reduce poverty and increase well-being in all the parts of the countries.

This includes issues such as access to broadband and access to health care. France is a success story in this respect: even people living in rural areas have very high levels of access and are very satisfied with that kind of access. This is far from being the case nowadays in Eastern Europe. Life expectancy and other related indicators are also significantly lower. The ambition should be to ensure less unequal life expectancies, infant mortalities, chances of a good quality of life in Europe in the future (not by making life more miserable for the people in the west, but by making it better for those in the east.

Cohesion policy has traditionally focused on economic social and also on some environmentally sustainable development. A new emphasis on governance has more recently emerged. The ideal Europe in 2030 or 2050 should be much more transparent, much less corrupt, much more efficient and much more trustworthy in general: levels of bribery taking and corruption, of abuse of public procurement for private gain should go down, etc. This is a big issue for the EU regional policy, but for other EU policies as well.

The EU regional policy often gets misunderstood as a policy aiming at equality, equalization of GDP per capita, of productivity, employment, rates of education,... That is both impossible and undesirable. It is definitely normal that certain people conglomerate or concentrate in certain areas and others in other areas. Even in 2050, we will continue to have a Europe where the educated and the entrepreneurs concentrate in a number of the larger cities and others in rural areas. Per se, this is not a big problem. It becomes a problem if some areas face the cumulative effect of various disparities on a number of issues. Reaching an equal level of productivity everywhere would be neither efficient, nor attractive, nor possible. But we do have disparities now which are unnecessary and arguably inefficient. Making a case for a reduction of inefficient inequalities makes perfect sense, but we also have to accept that a completely equal territory is out of reach, even in the future. Even in France today, if you live in a rural area, your access to a number of services will be lower than elsewhere. But that's compensated by the fact that you have better air quality, lower noise levels, different quality of life, and lower costs of living, etc. To the extent that people feel that every area presents a good, attractive package, those disparities are not really problematic. Differences in innovation, productivity and education levels are likely to continue in the future, but they should not be unnecessarily large.

"Europe of the regions", i.e. high level of devolution to the regional level, with the member state having not much to say: a possible scenario for future EU governance? Combining a real shifting of powers to the European level and the regional level, this could happen… However, EU27 includes 97 NUTS 1 and 271 NUTS 2 areas (and NUTS 2 includes French Regions, Spanish Autonomous Communities, etc.). Setting up a "Europe of the regions" with such areas could prove unmanageable. Alternatively, we could imagine a Europe of smaller member states, including newly independent countries (Scotland, Catalonia, Flanders, etc.). Anyway, if they decide to go it alone, we will be in a situation where we will have to think about how we deal with more and smaller member states.

This is a legitimate question. Nowadays, we still pretend as if every member state has an equal say. As we expand the number of members, we will have to accept that this is not true. Because you cannot pretend that Malta has the same weight as Germany. So you could imagine a situation where the power of the Commission is more concentrated, becomes more like an executive than it is now, and that makes it more manageable to have more member states, and more smaller member states, and then if countries fall apart, so what?… Flanders, Brussels and Wallonia will not each get a commissioner…

Other comments or issues raised

n.a.

Key-references

DG Regio Staff working document (November 2008) *Regions 2020: an Assessment of Future Challenges for EU Regions*
http://ec.europa.eu/regional_policy/sources/docoffic/working/regions2020/pdf/regions2020_en.pdf

ÖIR, Spatial Foresight, BBSR, PŐYRY, Universität für Bodenkultur, (May 2011) *Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis* (Regions 2020 follow-up study)
http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/region2020_phase2/challenge2020_report.pdf

DG Regio (October 2011) *Cities of Tomorrow: Challenges, visions, ways forward*
http://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_final.pdf

2. Mobility / Transport

Likely evolution of the policy in the "real world"

Two major reference documents: "Connecting Europe Facility" for the short term (2020), and the "White Paper - Roadmap to a Single Transport Area" for the 2050 time horizon.

Based on the plan tabled by the European Commission in October 2011, the "Connecting Europe Facility", with a total amount worth €50 billion of investment, will finance projects which fill the missing links in Europe's transport, energy and digital networks. It will also make Europe's economy greener by promoting cleaner transport modes, high speed broadband connections and facilitating the use of renewable energy in line with the Europe 2020 Strategy.

However, the current fierce discussions about the EU budget 2014-2020 suggest that the availability of sufficient EU funding for the "Connecting Europe Facility" cannot be taken for granted.

Key-goals of the White Paper Transport 2050 include:

- no more conventionally-fuelled cars in cities.
- 40% use of sustainable low carbon fuels in aviation; at least 40% cut in shipping emissions.
- a 50% shift of medium distance intercity passenger and freight journeys from road to rail and waterborne transport.
- 60% cut in transport emissions.

The White Paper roadmap sets different goals for different types of journey - within cities, between cities, and long distance.

1] For intercity travel: 50% of all medium-distance passenger and freight transport should shift off the roads and onto rail and waterborne transport.

- By 2050, the majority of medium-distance passenger transport, about 300km and beyond, should go by rail.
- By 2030, 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport, and more than 50% by 2050.
- Deliver a fully functional and EU-wide core network of transport corridors, ensuring facilities for efficient transfer between transport modes (TEN-T core network) by 2030, with a high-quality high-capacity network by 2050 and a corresponding set of information services.
- By 2050, connect all core network airports to the rail network, preferably high-speed; ensure that all core seaports are sufficiently connected to the rail freight and, where possible, inland waterway system.
- By 2020, establish the framework for a European multimodal transport information, management and payment system, both for passengers and freight.

- Move towards full application of “user pays” and “polluter pays” principles and private sector engagement to eliminate distortions, generate revenues and ensure financing for future transport investments.

2] For long-distance travel and intercontinental freight, air travel and ships will continue to dominate. New engines, fuels and traffic management systems will increase efficiency and reduce emissions.

- Low-carbon fuels in aviation to reach 40% by 2050; also, by 2050, reduce EU CO2 emissions from maritime bunker fuels by 40%.
- A complete modernisation of Europe's air traffic control system by 2020, delivering the Single European Sky: shorter and safer air journeys and more capacity. Completion of the European Common Aviation Area of 58 countries and 1 billion inhabitants by 2020.
- Deployment of intelligent land and waterborne transport management systems (e.g. ERTMS, ITS, RIS, SafeSeaNet and LRIT
- Work with international partners and in international organisations such as ICAO and IMO to promote European competitiveness and climate goals at a global level.

3] For urban transport, a big shift to cleaner cars and cleaner fuels. 50% shift away from conventionally fuelled cars by 2030, phasing them out in cities by 2050.

- Halve the use of ‘conventionally fuelled’ cars in urban transport by 2030; phase them out in cities by 2050; achieve essentially CO2-free movement of goods in major urban centres by 2030.
- By 2050, move close to zero fatalities in road transport. In line with this goal, the EU aims at halving road casualties by 2020. Make sure that the EU is a world leader in safety and security of transport in aviation, rail and maritime

The EU transport policy has considerably evolved. Initially, we had the TEN-T networks and the Essen priorities agreed upon in 1994. These Essen priority projects were isolated projects in the network, actually national priorities proposed by the individual member states. The next step was the enlargement. Around 1997 the TINA (Transport Infrastructure Needs Assessment) exercise started to extend the TEN-Ts to the future member states. This was based on a concept of ten pan-European corridors, which connected Eastern and Central Europe to the TEN-Ts in the old 15 member states. These ten corridors served as a backbone for the TINA process. At the time of their accession (1st May 2004 + 1st Jan. 2007 for BU and RO), TINA became the TEN-T network of the new member states. In 2004, a process was finished (Karel Van Miert’s high level group): 16 extra priority projects were added to the initial 14 projects → 30 priority projects in all.

What we have today is solid and much more “European” than nationally-minded. In a way, it has already been tested. On 19th October 2011 – talks in the Council started, and after several meetings under PL and DK presidencies, we had an agreement in the Council in March 2012. Only minor amendments were made to the initial proposal. The MS took on board virtually everything of the content and respected the methodology. Council decision: http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/trans/129202.pdf. The agreement is about all types of transport modes (including air, maritime traffic, etc.), but

on infrastructure only. For example, on air traffic, the agreement concerns airports, also the traffic management system (which is also part of the hardware / infrastructure). Operating the network is a different story.

Infrastructure is one side, but various steps are also taken at the policy level. This is of course more controversial, for example the issue of internalisation of external costs. This is a key-point for an ideal EU transport system, also mentioned in the White Paper. But there might be a difference between the ideal world and the reality, and there are vested interested against the internalisation of external costs, so it has been very difficult up to now to make progress in this field.

One can wonder if the other countries will end up realising that there is a real need for a green transport system at the global level? There might be some change of minds. Anyway, before that happens, the evolution of the prices on the oil market will lead to some change. There could be some push effect towards rail and waterways, which is the core of our policy.

If we really have functional intermodal nodes (airports or rail terminals) and if we have sufficient capacities in our transport corridors, then we will create the preconditions for the modal shift. This would be the way to a partial, but significant, achievement of the 60% GHG emission reduction target. Apart from the infrastructure backbone, further policy measures (liberalization of rail, etc.) are also needed. DG MOVE Also finance quite a lot of pilot projects (energy, maritime, exchange systems, electric batteries, hydrogen, etc.). DG MOVE wants the entire network to become a green network, and take on board various messages expressed by the citizens, who want smart and green infrastructure, and no longer accept noise, congestion, pollution and other nuisance.

Clues for an alternative "ideal policy"

The White Paper Transport 2050 is the reference document for the coming years. Somehow, the "ideal policy" is nothing else than turning the White Paper into reality.

The Commission (more the Framework Research Programme than DG MOVE) also contributes to some transport-related technological foresight project. For example, on busses that are coupled and circulate electronically (*"vehicle platooning"* *http://www.tech-faq.com/vehicle-platooning.html, for example in the SARTRE project: http://www.sartre-project.eu/en/publications/Documents/ITS%20WC%20challenges%20of%20platooning%20concept%20and%20modelling%2010%20b.pdf*)

Concerning the decision-making process in the meeting of the Council ("Transport, Telecommunication and Energy" formation) the Community method applies (qualified majority + right of initiative of the Commission) but in case one infrastructure specifically relates to the national territory of a member state, this member state has some sort of veto right. The other member states cannot impose an infrastructure to one member state on its own territory. But part from that the qualified majority voting applies. The rules of the game are not the same in the domestic context: even in decentralised federal systems, for example a German Länder could not simply impose a stalemate to the others. A reform leading toward a more "federal" EU decision-making procedure for TENs is not on the agenda at this stage, but could be thought for the longer term. For the time being, the decision making process is significantly

more protracted in Europe than in other parts of the world (USA, China) and this may also contribute to penalise the EU in the global competition.

Other comments or issues raised

ESPON, especially the Map of Urban Areas (ESPON Atlas, p. 29, based on MEGA & FUA classification of project 1.1.1) delivered a major contribution, very useful to DG MOVE's work, but without providing the "complete answer", because it was also necessary to find a balance for all the 27 MS. Capital cities and some other large cities were of course the main nodes, but beyond that, some border-crossing "gaps" were remaining. Therefore some other cities of more than 1 million inhab were also taken on board.

Key-references

Connecting Europe Facility: http://europa.eu/rapid/press-release_IP-11-1200_en.htm?locale=FR

Connecting Europe Facility brochure: http://ec.europa.eu/transport/themes/infrastructure/connecting/doc/connecting/2012-10-02-cef-brochure.pdf

White Paper "Transport 2050 Roadmap to a Single Transport Area (28 March 2011 -full text): http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011DC0144:EN:NOT and http://ec.europa.eu/transport/themes/strategies/2011_white_paper_en.htm

TRANSPORT 2050 (White Paper Memo) : http://europa.eu/rapid/press-release_MEMO-11-197_en.htm

Eurobarometer - Future of transport, analytical report http://ec.europa.eu/public_opinion/flash/fl_312_en.pdf

3. Research policy

Likely evolution of the policy in the "real world"

According to "The World in 2025" report there is a high risk that Asia catches up with Europe and the US in the area of R&D: *"If the recent trends continue, in 2025, the United States and Europe will have lost their scientific and technological supremacy for the benefit of Asia (China and India will have caught up with or even overtaken the Triad) even if they will still appear among the principal world powers as regards R&D. However, their relative weight in terms of R&D investments could strongly fall to the profit, in particular, of emerging Asia. India and China could thus account for approximately 20 % of the world's R&D, i.e. more than the double of their current share."* (p.10 of the Executive summary of "The World in 2025" – see references below).

For the time being, the EU policy response virtually amounts to implementing the "Innovation Union" flagship initiative of Europe 2020. Its objectives and activities have been summarized as follows:

1) *In times of fiscal constraints, the EU and Member States need to continue to invest in education, R&D, innovation and ICTs. Such investments should where possible not only be protected from budget cuts, but should be stepped up.*
2) *This should go hand in hand with reforms to get more value for money and tackle fragmentation. EU and national research & innovation systems need to be better linked up with each other and their performance improved.*
3) *Our education systems at all levels need to be modernised. Excellence must even more become the guiding principle. We need more world-class universities, raise skill levels and attract top talent from abroad.*
4) *Researchers and innovators must be able to work and cooperate across the EU as easily as within national borders. The European Research Area must be completed within four years – putting in place the frameworks for a truly free movement of knowledge.*
5) *Access to EU programmes must be simplified and their leverage effect on private sector investment enhanced, with the support of the European Investment Bank. The role of the European Research Council should be reinforced. The framework programme's contribution to nurturing fast-growing SMEs must be boosted. The European Regional Development Fund should be fully exploited to develop research and innovation capacities across Europe, based on smart regional specialisation strategies.*
6) *We need to get more innovation out of our research. Cooperation between the worlds of science and the world of business must be enhanced, obstacles removed and incentives put in place.*
7) *Remaining barriers for entrepreneurs to bring "ideas to market" must be removed: better access to finance, particularly for SMEs, affordable Intellectual Property Rights, smarter and more ambitious regulation and targets, faster setting of interoperable standards and strategic use of our massive procurement budgets. As an immediate step, agreement should be reached on the EU patent before the end of the year.*
8) *European Innovation Partnerships should be launched to accelerate research, development and market deployment of innovations to tackle major societal challenges, pool expertise and resources and boost the competitiveness of EU industry, starting with the area of healthy ageing.*
9) *Our strengths in design and creativity must be better exploited. We must champion social innovation. We must develop a better understanding of public sector innovation, identify and give visibility to successful initiatives, and benchmark progress.*
10) *We need to work better with our international partners. That means opening access to our R&D programmes, while ensuring comparable conditions abroad. That also means adopting a common EU front where needed to protect our interests.* [2]

The Innovation Union flagship initiative includes 34 rather complex commitments, which do not involve DG RTD R&I only but also many other DGs (Internal Market, etc.) and the mobilisation of venture capital.

Perhaps could the "European Innovation Partnerships (EIP)" prove more efficient. They are designed as catalyst engines, not supported by any EU funding.

[2] "Innovation Union" Executive Summary, http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf#view=fit&pagemode=none

"European Innovation Partnerships (EIPs) are a new approach to EU research and innovation. EIPs are challenge-driven, focusing on societal benefits and a rapid modernisation of the associated sectors and markets.

EIPs act across the whole research and innovation chain, bringing together all relevant actors at EU, national and regional levels in order to:

(i) step up research and development efforts;
(ii) coordinate investments in demonstration and pilots;
(iii) anticipate and fast-track any necessary regulation and standards; and
(iv) mobilise 'demand' in particular through better coordinated public procurement to ensure that any breakthroughs are quickly brought to market.

Rather than taking the above steps independently, as is currently the case, the aim of the EIPs is to design and implement them in parallel to cut lead times.

EIPs streamline, simplify and better coordinate existing instruments and initiatives and complement them with new actions where necessary. This should make it easier for partners to co-operate and achieve better and faster results compared to what exists already. Therefore, they build upon relevant existing tools and actions and, where this makes sense, they integrate them into a single coherent policy framework. Flexibility is important; there is not a 'one-size-fits-all' framework.

EIPs are launched only in areas, and consist only of activities, in which government intervention is clearly justified and where combining EU, national and regional efforts in R&D and demand-side measures will achieve the target quicker and more efficiently."[3]

At this stage, there are five such EIPs: "Active and Healthy Aging", "Agricultural Sustainability and Productivity", "Smart Cities and Communities", "Water", and "Raw Materials". They implement demonstration projects, and their governance structure involves various bodies, including the European Commission, member states, the European Parliament, etc.

Clues for an alternative "ideal policy"

We need a system of open innovation, with a strong involvement of the member states, very regular funding and predictability.

For the time being, this predictability cannot be taken for granted. Take for example the economic development objectives of the Barcelona process: the private funding of the growth process (2/3 of the total funding, i.e. 2% of the GDP in R&D – 2/3 of 3%) is invested by large companies, but these invest primarily outside Europe.

"Smart fiscal consolidation" is key: fiscal austerity measures which avoid spending cuts in key-areas such as education, innovation and research & development. (Barroso said: "countries which cut in the very areas they need to nurture for future growth will pay a heavy price down the line.")

[3] Cf. EIP site : http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=eip

We need first a dynamic sector of private companies, but this sector must also be strongly supported by the public authorities, for example through improving significantly the availability of venture capital. The EU regional policy is evolving: classic infrastructure investments, which have been strongly supported so far, tend to give way to other types of intervention. For example, , at least 80% of ERDF resources at national level will be concentrated on 4 themes (energy efficiency, energy renewables, innovation and SME support) in more developed and transition regions, and 50% on the same themes in less developed regions.)

What could be done to avoid a "two-speed Europe" when implementing the Europe 2020 strategy? For the time being, southern and eastern Europe perform less well than the other member states in terms of development of the knowledge economy. In this respect, the promotion of the place-based approach in the EU regional policy could help to assist regions whose development is lagging behind in making the right choices when investing in R&D. In rural areas, for example , an agriculture / R&D synergy relationship should be encouraged to improve crop yields. Therefore it really does matter for the MS concerned to identify the relevant promising technologies. By the way, "ex-ante conditionalities" will apply at the national level during the 2013-2020 period, and the first of them (cf. Annex IV of the draft common provisions regulation) reads: *"1.1. Research and innovation: The existence of a national or regional research and innovation strategy for smart specialisation in line with the National Reform Program, to leverage private research and innovation expenditure, which complies with the features of well-performing national or regional research and innovation systems".*

Is it possible to challenge the "pentagon model" by developing "growth corridors" associating less competitive regions to those which perform better, and promoting "smart specialisation" in southern and eastern Europe? Maybe, but this will be very difficult, especially in the current budgetary context!

Another challenge should be taken up: the urbanisation process. More than 80% of Europeans live in an urban area. This has been overlooked for long. DG REGIO has been recently renamed "DG for Regional and Urban Policy", which reflects, significantly enough, a recent awareness-raising process. In many countries, one or two cities concentrate the bulk of R&D budgets. If this model performs better, why shall we change it? We should invest more in metropolitan areas.

Other comments or issues raised

Forward looking activities (FLA) are used for the preparation and the formulation of EU policies.
Cf. European Commission, DG RTD R&I, Unit L.2 – Research in the economic, social sciences and humanities – Prospective: see report *"European Forward Looking Activities"* in the list of references below.

Foresight and Forecasting allow to elaborate long term visions and to assess economic, social and environmental impacts of policies. Between 2007 and 2010 around twenty research FLA initiatives were launched by the Seventh Research Framework Programme under the theme

"Socioeconomic Sciences and Humanities" in the following fields: Globalisation, Europe and neighbouring countries; ERA (European Research Area), science, technology and innovation; Evaluation of policies and modelling of post-carbon society; Mapping, preferences, visions and wild cards.

« Joint Programming Initiatives (JPI) » are of a different nature. They are not EU-funded. Instead, they are co-funded by participating member states and some non-member states to pool national research efforts. DG RTD R&I participates as a facilitator. To date, 10 JPI have been launched:

- Neurodegenerative Diseases/Alzheimer's
- Agriculture, food security and climate change
- A healthy diet for a healthy life
- Cultural heritage & global change
- Urban Europe
- CliK'EU
- More years, better lives
- Antimicrobial resistance
- Water challenges
- Healthy & productive seas and oceans

Further detail:
http://ec.europa.eu/research/era/areas/programming/joint_programming_en.htm . The outcome of some of these JPI could prove insightful for the elaboration of ET 2050 scenarios / vision. For example "Urban Europe" (http://www.jpi-urbaneurope.eu/) , which involves 16 member states + Turkey (NL & AU being particularly active).

Key-references

European Commission / European Research Area – ERA (2009) *"The World in 2025" Contributions from an expert group.* January, 7th Framework Programme. Executive summary: http://ec.europa.eu/research/social-sciences/pdf/the-world-in-2025-report_en.pdf .
Full report on the ET2050 website:
http://www.et2050.eu/Et2050_library/docs/scenarios/world_2025.pdf

"European Forward Looking Activities - EU Research in Foresight and Forecast (Socio-Economic Sciences and Humanities, list of activities 2007-2010)": http://ec.europa.eu/research/social-sciences/pdf/eu-forward-looking-activities_en.pdf

Innovation Union Flagship Initiative:
http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication-brochure_en.pdf#view=fit&pagemode=none
See also progress report 2011:
http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2011/state_of_the_innovation_union_2011_brochure_en.pdf#view=fit&pagemode=none

Communication "Regional Policy contribution to smart growth":

http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/smart_growth/comm2010_553_en.pdf

European Innovation Partnerships (EIP)
http://ec.europa.eu/research/innovation-union/index_en.cfm?pg=eip

4. Environmental policy

In contrast with the other interviewees, the DG ENV official consulted was much more inclined to express personal views and to speculate about the long-term future. Therefore the type of content of this section is not quite comparable to that of the other sections. Stimulating questions were raised, but they do not necessarily reflect the policy agenda of DG ENV.

Likely evolution of the policy in the "real world"

N.B. The interviewee has not addressed the likely evolution of the EU environmental policy as such. Instead, he concentrated on possible evolutions of the environment and the environmental/economic policies at large. About the future EU environmental policy, see heading "key-references" below.

The current sacrosanct paradigm remains a model of endless economic growth. (cf. "Growth Fetish" by Clive Hamilton[4]). Yet any kind of resource, including land, is exhaustible. We got rid of slavery, but we exploit natural resources as if they were our slaves. We exploit them, but we do not pay the price. Nature is key. It is the starting point. Without it, development will be neither sustainable nor inclusive → in the "smart-sustainable-inclusive development" triangle, "sustainable" should be given precedence, not "smart" as generally believed.

The economic apparatus cannot repair the damage it generates. Consider for example the water-related problems: drought, floods, erosion, groundwater pollution, etc. Can we afford to repair all this with empty coffers? It will prove necessary for some people to desert the region where they live. An artificial transfer of water from regions with sufficient water resources to those prone to drought will not be the right policy response. Transferring production means and populations from poor regions (e.g. Sahel) to more prosperous ones (as currently considered by some people) will not be the solution either.

It seems virtually impossible to dethrone King GDP. We all know that this indicator is inappropriate to measure our real level of well-being, but it remains the default-option. Yet alternative indicators exist. For example, the ratio <life expectancy / per capita health expenditure> is much more relevant than health expenditure only (which is a component of

[4] HAMILTON Clive (2003) *Growth Fetish,* Allen & Unwin. (Wikipedia comment: The book argues that the policies of unfettered capitalism pursued by the west for the last 50 years has largely failed, since the underlying purpose of the creation of wealth is happiness, and Hamilton contends that people in general are no happier now than 50 years ago, despite the huge increase in personal wealth. In fact, he suggests that the reverse is true. He states that the pursuit of growth has become a fetish, in that it is seen as a universal magic cure for all of society's ills. Hamilton also proposes that the pursuit of growth has been at a tremendous cost in terms of the environment, erosion of democracy, and the values of society as a whole. One result is that we, as a society, have become obsessed with materialism and consumerism. Hamilton's catchphrase "*People buy things they don't need, with money they don't have, to impress people they don't like*" neatly sums up his philosophy on consumerism.

the GDP), because per capita health expenditure increases considerably with some effects of our consumerist culture (you have to tackle obesity and other diseases generated by our bad style of life). In Portugal for example, the value of this ratio is higher than in the US[5], probably due to a healthier style of life.

Considering the brevity of electoral mandates between two successive ballots, short-term policy approaches tend to prevail. In the corporate sector, the short-termism is even more acute (quarterly reports, etc.) and this is not compatible with the long-term perspective needed to tackle nature-related issues.

Interest groups and lobbyists with a short term time horizon besiege top decision-makers. They are not to blame, they do their job and behave in line with the standards of the current system, but this is detrimental to good governance and neglects the wide potential of grassroots support that can be expected from various actors in various territories.

The "me too" principle pervades many policies, including regional policy. Everybody wants to get his "fair" share of the cake, without realising that resource availability is limited and that alternative joint approaches based on resource pooling are more efficient (cf. infra, BBS – Benefit-and-Burden Sharing, heading "clues for an alternative ideal policy"). It is also difficult to get the "Polluter Pays Principle" effectively applied (the interviewee gave various examples of infrastructure projects supported by public funding (EU ERDF or Cohesion Fund, World Bank in Sahel, etc.) without due consideration to this principle.

Europe is anonymous and coming a cropper. Xenophobia, racism, north-south conflict, etc. are gaining ground → Europe tends to fall apart.

Clues for an alternative "ideal policy"

The aim should be to make the economy work for a political project, not the other way round. Nowadays, politics is too weak and should be made much stronger.

In the fifties (i.e. not so long ago), living conditions were not bad. If we could couple 2050 with 1950 while using technologies of 2000, we would get rid of current wrong values (consumerism, etc.) while reactivating old ones and taking full advantage of existing tools (research, know-how, knowledge) to solve problems we will be facing. No "back to stone age"; instead take full advantage of what we have to solve problems. We need a "post-growth economy", an economy of transformation / transition.

Considering that some services provided on a voluntary basis (i.e. non remunerated financially and therefore non accounted for in the GDP) deliver a significant contribution to the general welfare, we can imagine some sort of mixed economy based on two components:

- A sector of cutting-edge technology industries with high value-added
- Local economy, based on voluntary work (more than profit-making), akin to the co-operative associations of the 19th and early 20th century, promoting solidarity and barter economy.

[5] See also http://ucatlas.ucsc.edu/spend.php

Europe should unite, but EU27 being too large is not visible enough to the EU citizens. Considering the lack of EU ownership, a possible scenario could be a federation of macro-regions (instead of a federation of nation states). Not necessarily the current macro-regions, but rather of "natural macro-regions" defined on the basis of geomorphologic criteria such as the Danube river basin. Cultural considerations should also guide the definition of these macro-regions. EU27/28 is a patchwork of cultures, each of which cannot identify with "Europe", but one can imagine a macro-regional grouping process based on some cultural considerations (e.g. common historic legacy, religious background, etc., even if cultural diversity and mutual understanding between various cultures should also be promoted). These macro-regions should unite as nation-states did formerly. Nevertheless, it will remain necessary to make decision at the EU level for some policies of critical importance (e.g. defence and foreign policy,) in a world dominated by a few super-powers (China, USA, Latin America). Other current EU policies or some aspects of these policies, for example EIA, could be devolved to the macro-regional level, because standardising these policies or aspects at the EU level is not essential. Partners of the Danube cooperation have already created a joint Danube research fund. They could also set up, for example, a "Natura 2000" Danube agency to pool resources in this area (instead of several national institutes, each with insufficient financial and technical means).

The single currency policy is a trickier issue. For the time being, the euro-zone is far from covering the entire EU territory. Is it really essential that the euro becomes the single reference currency in every part of Europe?

Governance and citizen's participation is essential. Involve people concerned, involve various territories, avoid top-down decisions. Ideally, in each of these federated macro-regions, a culture of responsible citizenship and entrepreneurship should be promoted (akin to "Rhine Capitalism"[6]), as well as "BBS – Benefit-and-Burden Sharing". BBS is the opposite of the "Me too" principle. "Mee too" is the lack of any form of planning. Everybody focuses on one's own territory and strives to maximise the level of public investment on it, for example to combat flooding. The BBS approach places the emphasis on solidarity between the various parts of the common territory. For instance, since flood damages are much more costly and disastrous in an urban area and much less in sparsely populated areas of this common territory, the latter should accept a reasonable level of damage (which can be financially compensated at a reasonable price) to maximise the level of investment to protect the former (since the ratio cost/benefit will be minimal in the urban area). A key-feature of modern nation-states is that they have been built on a progressive acceptation by their citizens of the necessity of burden sharing. At this stage, much less progress has been made on European than on national integration(for example a German will accept more easily some financial transfers between Länder than to pay for Greece). It could occur that the necessity of burdensharing is more easily accepted at the transnational than the EU level.

Other comments or issues raised

DG ENV is often consulted by several other Commission DGs about the possible impact of various policies and decisions. As these policies often pursue specific "spatially-blind"

[6] Cf. http://en.wikipedia.org/wiki/Rhine_capitalism

objectives, DG ENV officials have sometimes faced conflicting situations. This is the case for example about the development of new department stores on out-of-town peripheral sites: DG MARKT's approach to this issue tends to be obsessed by some principles of the EU law, for example those of the Service Directive, without realising that other considerations such as land use regulations may also apply.

Key-references

No reference was mentioned by the interviewee. However, the following key-references cannot be ignored:

7th EAP (Environment Action Programme), renamed "General Union Environment Action Programme to 2020 -*Living well, within the limits of our planet*", Proposal of the European Commission : http://ec.europa.eu/environment/newprg/pdf/7EAP_Proposal/en.pdf
It is stated in this document that *"It is essential that Union priority objectives for 2020 are established, in light of a long-term vision for 2050. The new programme should build on policy initiatives in the Europe 2020 strategy, including the EU climate and energy package [Regulation (EC) No 443/2009, Directive 2009/28/EC, Directive 2009/29/EC, Directive 2009/30/EC,Directive 2009/31/EC, Decision No 406/2009/EC, all in OJ L 140 of 5.6.2009], the Roadmap for moving to a low-carbon economy in 2050 [COM (2011) 112, OJ C 140 of 11.5.2011], the EU Biodiversity Strategy to 2020 [COM(2011) 244, OJ C 264 of 8.9.2011], the Roadmap to a resource-efficient Europe [COM(2011) 571, OJ C 37 of 10.2.2012] and the Innovation Union Flagship Initiative."*

See also Annex 4 to the Impact Assessment accompanying the Commission proposal: http://ec.europa.eu/environment/newprg/pdf/ia_annexes/Annex%204%20-%20The%20outlook%20to%202020%20and%20beyond%20to%202050.pdf , actually a summary of the OECD report "Environmental Outlook to 2050" (OECD, Paris, 2012): http://www.oecd.org/env/environmentalindicatorsmodellingandoutlooks/oecdenvironmentaloutlookto2050theconsequencesofinaction.htm

5. Maritime policy

Likely evolution of the policy in the "real world"

For the time being, a key-priority is to make the EU integrated maritime policy contribute to the Europe 2020 objectives: job creation, growth, competitiveness and sustainable development of the European economy. To achieve this, DG MARE takes all the objectives of the integrated maritime policy (approved in 2007) as a reference, in particular a strengthening of the maritime governance (including the coordination between the various sector administrations at the EU, national and regional levels) to achieve more focused and synergetic objectives and impacts. Through various proposals, DG MARE strives to promote the integration of the actions undertaken by various bodies while catalysing growth and job creation.

The maritime economy is characterised by a relatively better growth rate than in other sectors. This is even the case in relatively traditional industries such as shipyards (some of them have specialised in more innovative sectors such as cruise ships, where European companies control 95% of the market), off-shore wind farms (10 to 30% growth rate), maritime tourism (the largest industry of the world economy, with a 10% growth rate in some sub-sectors such as cruises). On top of these important and already thriving sectors, the "Blue Growth" Communication COM(2012) 494 (see below) has identified five promising industries, the potential of which remains to harness: 1] Blue energy (other than off-shore wind farms), 2] Aquaculture, 3] Maritime, coastal and cruise tourism[7], 4] Marine mineral resources and 5] Blue biotechnology.

Thus the EU maritime policy revolves around two main priority areas: policy instruments to promote a more integrated and coherent approach in the area of maritime development, and a "blue growth" contribution to the implementation of the Europe 2020 strategy.

Moreover, DG MARE has three so-called "enabling instruments", meant to support the development of the maritime (especially off-shore) economy through securing framework conditions stimulating the development of these industries while securing their sustainability, safety and integration in the wider context of EU maritime policies. These "enabling instruments" are:

- Maritime spatial planning (the Commission should publish a draft Directive shortly, possibly in early February 2013, and the adoption procedure could last more than one year);
- Maritime knowledge: making mutually compatible all the data collection and management systems;
- Common Information Sharing Environment (CISE), which will integrate the maritime surveillance systems (the various existing systems are very heterogenous).

[7] In contrast with the other four industries, the maritime tourism is already firmly established, but generally regarded as in need for specific support.

The draft directive on maritime spatial planning will of course have some connection with Integrated Coastal Zone Management (ICZM), which DG ENVI is responsible for.

Sea level rise is also an issue on DG MARE's agenda, but much more the responsibility of DG CLIMA (Climate Action[8]). Coastal protection/defense is a strategic environmental issue, but can also contribute to economic growth.

Major and insightful breakthroughs have been achieved in the area of EU maritime policy **governance**. This has been, and will continue being, catalysed by the work on the "enabling instruments". There is still a strong intergovernmental component in the approach, because the maritime policy as such *(N.B. in the same way as the territorial development / planning policy)* has no legal basis in the EU treaties. However, a cross-sector integrated approach has been promoted in the Council of Ministers. Some presidencies particularly keen to make progress on integrated maritime policy have set up a "Friends of the Presidency Group", i.e. a temporary formation of the Council. In the European Parliament, there is no ad hoc commission for maritime policy, but an intergroup (between various EP commissions) exists. Both the Council and the EP groups are ad hoc formations, set up at the (Council or EP) President's discretion. Even though no formal decisions are made on EU maritime policy as such, many decisions relevant to this policy are made in the framework of other formal EU policies (transport, environment, regional policy, Common Fisheries Policy – CFP, etc.), following the formal procedure which applies (including qualified majority voting as appropriate).

For some tricky issues such as the delineation of territorial waters, the EU is not involved whatsoever: this is the UNCLOS[9] remit.

Clues for an alternative "ideal policy"

For the time being, economic growth and employment is the key-priority of DG MARE's network[10], but this could change in future

Turn the climate change threat into a sustainable economic development opportunity.

Further explore the potential of the maritime economy, for example in Arctic regions. Despite the lack of EU maritime borders[11] in the Arctic Ocean, the EU should be involved (e.g. in the framework of the Arctic Council www.arctic-council.org) in the Arctic exploration, where huge environmental and economic issues are at stake.

Promote short-sea-shipping (SSS) and inland navigation through road pricing (internalisation of external costs similar to the London "congestion charge" or truck tolls such as the German "Lastkraftwagen Maut"): very sensitive issue!

[8] Further detail on DG CLIMA action available on http://ec.europa.eu/clima/publications/docs/flyer_adaptation_en.pdf. See also *White paper - Adapting to climate change* in the key-references below.
[9] United Nations Convention on the Law of the Sea.
[10] Notably the bodies involved in the European Maritime Day, celebrated every year on 20 May : http://ec.europa.eu/maritimeaffairs/maritimeday/
[11] Unless Iceland ends up joining the EU.

In the area of maritime policy governance, further progress could be made to strengthen the legal basis of the policy and favour formal decision-making by EU authorities (e.g. directives or regulations relating to maritime policy proposed by the European Commission and formally adopted by the EP and the Council.)

Other comments or issues raised

n.a.

Key-references

European Commission COM(2012) 494, *Blue Growth opportunities for marine and maritime sustainable growth* [seemingly nick-named "Blue Paper / Livre bleu"]
http://ec.europa.eu/maritimeaffairs/policy/blue_growth/documents/com_2012_494_en.pdf

European Commission COM(2012) 491, *Progress of the EU's Integrated Maritime Policy*
http://ec.europa.eu/maritimeaffairs/documentation/publications/documents/imp-progress-report_en.pdf

European Commission COM(2006) 275, *Towards a future Maritime Policy for the Union: A European vision for the oceans and seas*.
http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2006&nu_doc=275

European Commission COM(2009) 147, *White paper - Adapting to climate change : towards a European framework for action*
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52009DC0147:en:NOT

6. Common Agricultural Policy (CAP)

N.B. The information material collected during the interview was not always crystal clear. CAP is a relatively intricate matter for non specialists. Therefore clues provided in the sections below need to be checked and made more accurate.

Likely evolution of the policy in the "real world"

The relative share of the First Pillar (direct payments) in the CAP budget should continue going down, but a relative "security net", i.e. a certain level of direct payments will remain necessary. It will also be necessary to organise a more correct redistribution of these payments. Farms will need further conversion, especially toward a less resource stressing and more extensive agriculture. Factory farming will not disappear, but further regulation will remain necessary in this sector, to improve the production quality and animal welfare (especially for chickens). Organic products should increase their market share, but an "everything-organic" scenario is not realistic. Non organic products will remain significantly cheaper, even though consumers will have to disburse more, owing to new regulations (e.g. on animal welfare).

There will be an increasing need for environmental and landscape services.

We can imagine a system in which farmers can receive one, two or three types of subsidies included in some sort of three-tier pyramid: 1) basic payment (modernisation of farms and the food chain - i.e. the current direct payments?); 2) payment for agriculture in less favoured areas (e.g. mountain areas, islands, etc.) 3 payment for environmental practices (nature conservation, landscape restauration, etc.)

Support to rural development will remain necessary, including in other sectors than the agriculture: development of micro-enterprises, provision of services of general interest, etc. It is not essential that these aspects are dealt with by DG AGRI. Community-led local development could definitely be in the hands of DG REGIO, provided that rural areas keep their fair share of the budget cake.

Impact of climate change and globalisation on the agriculture in Europe: the interviewee is not very familiar with these issues. Recommendation to consult other DG AGRI officials: Markus Holzer[12] on climate change and Pierre Bascou[13] for globalisation. The global demand for quality local products is set to go up, to the detriment of run-of-the-mill products, the production of which tends to become less profitable. The fact that the world population could reach 10 bn. inhabitants in 2050 is an argument to reconsider extensification policies: arable land could become a relatively scarce resource. Good resource management, including land resource, is a key issue for the future.

Biomass, bio-ethanol and other similar productions are not necessarily the right way forward. Large maize fields for this type of speculation are inappropriate. Massive burning of crops to produce energy does not make sense because it is not sustainable. In contrast, using the maize ears to produce fuel while recycling the straw for other purposes is more environmentally-friendly. Other types of renewable energy can be produced in the framework of the rural development policy. These are various new areas were considerable efforts should be made to invest in research and innovation.

Re-nationalisation of the agriculture policy cannot be entirely ruled out. Should this happen, state aid rules would apply to avoid distortions of competition. It is not demonstrated that the member states would have much to gain in this scenario.

Clues for an alternative "ideal policy"

Scenar 2020 – Scenario study on agriculture and the rural world

The Scenar 2020 study aims at identifying future trends and driving forces that will be the framework for the European agricultural and rural economy on the horizon of 2020.

Scenar 2020 provides a systematic review of the primary variables that rural and agricultural policies have to take into account. These are

- the rural demographic patterns,

[12] Marcus HOLZER, Head of Unit AGRI DDG3 H4 Bio-energy, biomass, forestry and climatic changes
[13] Pierre BASCOU, Head of Unit AGRI DDG2 L1 Agricultural policy analysis and perspectives

- the agricultural technology,
- the agricultural markets, and
- the natural and social constraints on land use that are likely to exist in 2020.

Social and economic factors, both conditioned by technology, have a bearing on these primary variables, and these factors are both endogenous and exogenous. Technology determines what is possible in every domain, and social (consumer) demand determines what is economically viable. Social demand – as it affects the agricultural sector – does not only reflect consumer preferences in terms of food, but also environmental and health concerns, including the commitment by society as a whole to the wise use of natural resources (water, soil) and biodiversity preservation. It is these environmental and health concerns that define the natural and social constraints on land use. World markets and local production costs – including compensation measures that may offset operating charges – will inevitably both determine what is economically feasible in the EU and direct agricultural production to the geographical locations worldwide that provide sustainable livelihoods for farmers, or the greatest return on investment for agro-industrial enterprises.

The method used is to build a reference scenario ('baseline') that is based on an analysis of trends from 1990 to 2005, which is projected forward to 2020; the trend analysis provides a substantiated basis for determining the long-term driving forces that is reflected in the reference scenario. It is assumed that economic, agricultural and environmental policy may cause an inflection in these trends, so these are studied as a second level set of driving forces, also to be taken into account in the scenario exercise. The relative importance between various policy frameworks is understood by comparing two alternative – or 'counterfactual' – scenarios ('liberalisation' and 'regionalisation') to the reference scenario.

This **reference scenario ('baseline')** establishes a possible and reasonable perspective of what might happen until 2020 from today's perspective. The main agricultural policy assumptions are the conclusion of the WTO negotiations on the basis of the EU proposal and the strengthening of the second pillar by obligatory modulation. For the market side, a balanced market approach had been chosen leaving public stocks at a level of 1% to 2% of domestic consumption and adjusting support prices where necessary. The enlargement process would continue by the Western Balkan countries and Turkey.

The baseline is contrasted by two alternative scenarios representing two possible but extreme policy choices:

1. The **regionalisation scenario** assumes that the WTO negotiations would not conclude and bilateral trade agreements would become more important. Agricultural policies would remain largely as they stand and rural development funding would be significantly increased. Consequently, total spending for the CAP would increase. For the market side again a balanced market approach had been chosen;
2. The **liberalisation scenario** assumes a complete dismantling of the first pillar policies, i.e. agricultural markets would be completely liberalised and rural development funding substantially reduced. Environmental legislation would be partially withdrawn in order to assure competitiveness with agriculture in third countries and other sectors of the economy.

The comparison between scenarios occurs in two steps:

- the first is a modelling exercise that analyses the likely outcome of each scenario using simulation models and other quantitative analyses. Where appropriate and necessary, these in-depth scenario analyses are complemented by qualitative analyses and expert judgement. The result is a description about how each scenario is expressed in spatial terms, across the EU-27, and in some case extended to the candidate countries for accession.
- The second step is a SWOT (**S**trengths, **W**eaknesses, **O**pportunities, **T**hreats) analysis, which is applied to each scenario in order to understand the implications in the following domains: demographic developments, dynamics of rural economies, and the future of the agricultural economy (specifically in terms of farm structures, production systems, and farm population demography). This occurs through the definition of 'typical' regions; such 'typical' regions are characterised by similar responses to the simulated factors.

This twelve-month study was carried out by the European Centre for Nature Conservation, Landbouw-Economisch Instituut, the Leibnitz-Zentrum für Agrarlandforschung, Leibnitz Institut für Länderkunde, the Central European University and the European Landowners Organisation. The study was reviewed in-depth by six independent experts during two workshops.

Other comments or issues raised

There was some rivalry in the relationships between EU regional policy and CAP (and their respective Commission DGs). It seems that the multi-fund approach promoted by the new Common Provisions Regulation encourage a more complementary approach.

Key-references

European Commission COM(2010) 672, *The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future.*
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0672:FIN:en:PDF

European Commission (Dec. 2006) SCENAR 2020 - Scenario study on agriculture and the rural world
http://ec.europa.eu/agriculture/agrista/2006/scenar2020/final_report/scenar2020final.pdf
Cf. summary above

www.capreform.eu CAP Reform blog. News, views and analysis relating to the EU CAP. The blog brings together the work of researchers, activists and analysts from across Europe and elsewhere.