ET2050

Inception Report

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ET2050
Territorial Scenarios and Visions for Europe

Project 2013/1/19

Inception Report | 23/12/2011

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This report presents a more detailed overview of the analytical approach to be applied by the ET2050 ESPON project. This Applied Research Project is conducted within the framework of the ESPON 2013 Programme, partly financed by the European Regional Development Fund.

The partnership behind the ESPON Programme consists of the EU Commission and the Member States of the EU27, plus Iceland, Liechtenstein, Norway and Switzerland. Each partner is represented in the ESPON Monitoring Committee.

The approach presented in the report was presented and discussed with the ESPON Monitoring Committee in the Krakow meeting (December 2011), and the indications made by the ESPON Monitoring Committee were integrated, but still it may not necessarily reflect the opinion of the members of the Monitoring Committee.

Information on the ESPON Programme and projects can be found on www.espon.eu

The web site provides the possibility to download and examine the most recent documents produced by finalised and ongoing ESPON projects.

This basic report exists only in an electronic version.

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1. Presentation

This Inception Report is submitted twelve weeks after the kick-off meeting of the project, celebrated in Barcelona, October 2011, and presents a more detailed overview on the research approach to be applied, the methodology and hypothesis for further investigation, and the presentation of initial and/or preliminary results.

The overall approach and the Participatory Plan were presented and discussed in the ESPON Monitoring Committee celebrated in Krakow, December 2011, and later on adjusted based on the indications made by ESPON MC members and ESPON CU.

The information provided by this Inception Report is a summary of the actual information contained in the project website (www.et2050.eu), that has been conceived and developed as the central instrument for organisation of the project, as:

- an internal communication instrument within the consortium, gathering all administrative documents, minutes of meetings, announcements…
- an interface with external actors (policy makers, experts), presenting partial results and allowing for interaction
- a platform to gather and classify all relevant materials and references to be considered during the project
- a platform for dissemination of project results

1.1 Objective of ET2050

ET2050 (Territorial Scenarios and Visions for Europe) aims at *supporting policy makers in formulating a long-term integrated and coherent vision for the (smart, sustainable and inclusive) development of the EU territory*.

This aim is twofold:

- content-wise:a product, namely a *Vision* for the European Territory, has to be developed
- process-wise, those who will elaborate this product, namely policy makers, have to be supported by sound scientific knowledge.

As is often the case in territorial development policy, the process is essential to achieve a successful result. This process is complex, since it entails involving a wide array of key-players, inviting them to widen their thematic, temporal and territorial horizons, i.e. to imagine a future that deliberately transcends sector-based, short-term and domestic policy considerations towards the definition of the European Territorial Vision.

1.2 ET2050 Transnational Project Group (TPG)

The Transnational Project Group (TPG) includes 13 European applied research institutions from 10 countries: 6 universities and research institutes, 6 companies specialised in spatial planning and 1 non-profit foundation..

Partners have experience in qualitative and quantitative modelling, as well in the different scientific and policy fields concerned in ET2050; they are familiar with different territorial contexts which brought all together cover the entire ESPON space. Partners have carried out participatory activities in spatial planning and foresight studies at local, regional and national level, and have also been involved in participatory processes at European level for territorial policies, as well as for other policies.

Most ET2050 have been participating in previous ESPON projects, and 3 institutions would participate for the first time in ESPON bringing complementary expertise on land-use change modelling (RIKS, NE), world future scenarios (ISIS, IT), and innovative communication and visualisation (ERSILIA Foundation, SP).

The TPG for the ESPON project ET2050 consists of the following thirteen Project Partners:

- MCRIT LTD, Barcelona, Spain (Lead Partner, LP)
- TERSYN European Agency Territories and Synergies, Strasbourg, France (PP2)
- Free university of Brussels, IGEAT, Brussels, Belgium (PP3)
- Centre for Regional Studies of the Hungarian Academy of Sciences, Pécs, Hungary (PP4)
- Politecnico di Milano, Milano, Italy (PP5)
- Central European Forum for Migration and Population Research, Warsaw, Poland (PP6)
- Spiekermann & Wegener (S&W), Dortmund, Germany (PP7)
- Research Institute for Knowledge Systems (RIKS), Maastricht, Netherlands (PP8)
- Warsaw School of Economics, Warsaw, Poland (PP9)
- Nordregio - Nordic Centre for Spatial Development, Stockholm, Sweden (PP10)
- University of Thessaly, Volos, Greece (PP11)
- Institute of Studies for Integration of Systems (ISIS), Rome, Italy (PP12)
- Ersilia Fundation, Barcelona, Spain (PP13)

1.3 Management and coordination

The Lead Partner takes responsibility for the overall co-ordination of the administrative, financial and scientific tasks of the project, while the co-ordination of each Task will be assigned to one Project Partner, and each Project Partner will be entrusted with specified contributions to various Subtasks, bear responsibility for co-ordinating his team and preparing the relevant scientific and financial reports, in compliance with the ESPON rules and terms of reference, the project-specific contract and the consortium agreement.

The *Steering Committee* was constituted in the fall of 2011, and celebrated its first meeting in Luxembourg on September 29th 2011. The Steering Committee is integrated by 9 consortium partners from six different institutions: the Lead Partner and the partners leading the different Tasks, together with partners having lead ESPON projects in the past. The Steering Committee bears responsibility for the internal quality control and will participate in any relevant decision related to the project coordination and management.

The composition of the Steering Committee is made by MCRIT, IGEAT, TERSYN, POLIMI, ERSILIA and S&W.

At least three experts from the 13 TPG partner institutions (up to 50 people) are integrated in the *Internal Expert Panel*. Before initiating the participatory processes concerning the trends and baseline scenarios (1), the extreme/exploratory scenarios profiles (2) and the Vision for the future (3), the *Internal Expert Panel* will carry out discussion to validate first scenario assumptions and then scenario complete narratives. The scientific quality control of the Interim, Draft Final and Final reports will be carried out by implementing an internal peer review process assuring that experts from the partner institutions represented in the Steering Committee review deliverables

before these are formally submitted. The precise allocation of responsabilities will be decided in the next TPG meeting in Brussels, March 2012.

Administrative and Discussion Notes are used to formalise interactions between partners:

- *Administrative Notes* are issued by the Lead Partner. These contain detailed timetables, agendas and minutes of meetings, project report development plans with tables of contents and responsibilities or timetables and guidelines for the financial reporting requirements. The administrative reports will be based on the management notes. All Administrative Notes are published in the restricted area of the ET2050 website.
- *Discussion Notes* are developed for the internal documentation of project material and results. Discussion notes are written by all Project Partners to inform other partners about the progress and results of individual research tasks. The possible content of such technical notes includes methodology specification or results of individual research steps. These notes are identified by a two-field (topic and version) reference number to secure an efficient track. All Discussion Notes are published in the restricted area of the ET2050 website.

2. Organisation of Work

2.1 Work structure

The work structure is organised according to the steps indicated in the Project Specifications, as follows:

- **Present State of Europe**: What is the current state of the European territorial structure?
- **Baseline Scenarios for 2030 and 2050**: What will be the future state of the European territorial structure based on the hypothesis that development trends and policies remain stable?
- **Extreme/exploratory Scenarios 2050**: What could be feasible future state of the European territorial structure in three territorially extreme/exploratory scenarios?
- **European Territorial Vision 2050**: What is the room for manoeuvre to politically steer (the development of) the future state of the European territorial structure and what is the range in which a realistic territorial vision can be formulated?
- **Midterm targets and pathways**: Is the Vision feasible?, which political pathway will be sufficient and/or more convenient to achieve end and midterm targets?

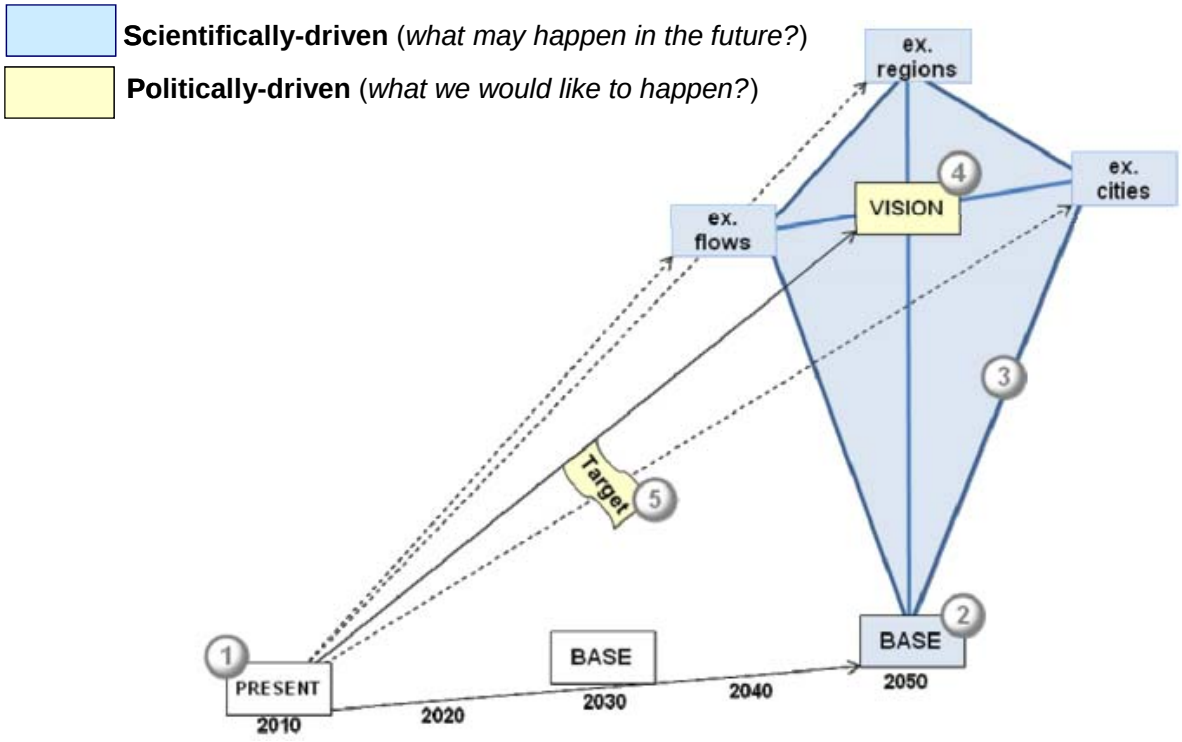

Figure 2-1 Approach to construction of scenarios and the Vision (PS)

ET2050 has 3 Work Packages (WP) divided in Tasks. As illustrated below, the three main WPs are: Coordination, Management and Quality Control (WP1), Research Activities (WP2), and Communication and Dissemination of Results (WP3).

WP2 includes eight main research tasks:

- **5 content-based tasks (Tasks 2.3 to 2.7)** matching the five steps detailed in the project specifications (Present State, Baseline Scenarios 2030 & 2050, European Territorial Scenarios for 2050, Territorial Vision 2050, Midterm Targets and Pathways towards 2030).

- **3 support-oriented tasks (Tasks 2.1, 2.2 and 2.8)**: Resources for interactive participation (Task 2.1), Database management, forecast and foresight modelling resources (Task 2.2), and Innovative visualisation (Task 2.8).

The content-based tasks will be performed sequentially. The whole project will be carried out in close consultation with the ESPON MC and CU. Participatory events and workshops will be linked to ESPON CU activities.

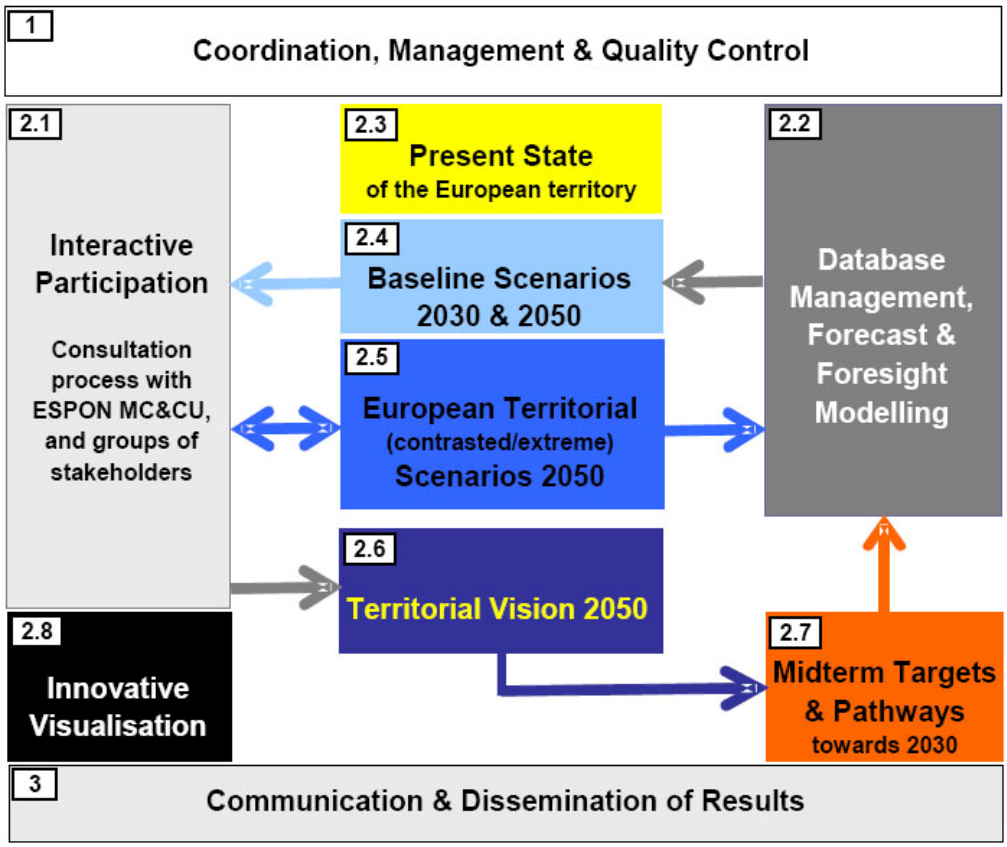

Figure 2-2 Tasks in the Work Programme

2.2 Ongoing and finished activities

Until December 2011, the project has already undertaken the following tasks::

Task	Activity
WP1 Management	Celebration of the kick-off and steering committee meetings in Luxembourg (September 2011) and TPG meeting in Barcelona (October 2011) Development of the ET2050 website (www.et2050.eu) as knowledge-sharing and communication environment Definition of the schedule of activities and deliveries
Task 2.1 Interactive participation	Participatory Plan detailing the nature of the different participatory events, the audiences targeted (including key stakeholders to be contacted), and a calendar of participatory activities. The Participatory Plan was presented and discussed with ESPON MC during the Krakow Internal Seminar (December 1st 2011). 1st Expert's and 1st MC Policy Oriented Workshop in Krakow (November 2011). Elaboration and distribution of questionnaire on preliminary draft sketches for scenarios (based on those included in the Project Specifications) during

Task	Activity
	Krakow ESPON Internal Seminar, and analysis of results.
Task 2.2 Data gathering and modelling resources	Documentation of ET2050 forecast models with SPQR protocol: background and framework information, data requirements and outputs, possible interaction with other ET2050 models, and adaptations foreseen in the framework of ET2050. Definition of the meta-analys as scientific procedure to validate and integrate results of different models and analyse contradictory outputs. Preliminary identification of criteria and indicators to be used within the analysing and building processes of the project (mostly through TIA) Discussion on data availability and quality outside EU27: in other ESPON countries, EU candidate countries (Western Balkans and Turkey) and other neighbouring countries (Maghreb, Middle East, Russia).
Task 2.3 Present territorial state of Europe	Identification of key data sources and references for each Macro-region and Sector (documentation incorporated in ET2050 Virtual Library). Identification of key stakeholders and institutions for each Macro-region and Sector. Framework for Macro-regional reports and for Sectoral reports: definition of methodology and the tables of content. Draft reports produced as sample for the others concerning on the South West Mediterranean Region, Energy sector and Technology sector (available at www.et2050.eu)
Task 2.4 Baseline scenarios 2030 and 2040	Identifying existing 2010-2020 official scenarios and Visions in Europe as a basis for formulating baseline scenarios for this first period.
Task 2.5 Exploratory Scenarios	Discussion about alternative approaches to design explorative scenarios. Internal survey to validate the scenarios presented in the Project Specifications Proposal of four preliminary scenarios defined as an evolution of the three scenarios described in the Project Specifications, and refined from results of questionnaire on scenario consistency, likelihood and desirability, distributed among participants to the Krakow ESPON Internal Seminar (November 2011). Definition of an alternative proposal of scenarios from a more explicit regional policy-approach and territorial levels
Task 2.6 Vision 2050	Preliminary identification of existing policy Visions for Europe Preliminary identification of existing global Visions for the World Beginning of the process to identify and analyse free-thinkers' visions of the long-term futures for Europe and the rest of the World.
Task 2.7 Midterm targets	Identification of policy targets derived from key EU policy documents and directives
Task 2.8 Innovative visualisation	Design of ET2050 website. Incorporation of infography, videos on future trends, videos on key trends in macro-regions, and existing territorial symbolic cartography on European Visions.

2.3 Communication resources

Resources for participation are being developed aiming to disseminate project ongoing works and activities in a communicative, user-friendly manner, exploiting different media and facilitating interaction with potential participants in the process.

The paramount aim is to generate interest for the project during the process of participation (for the stakeholders) and to increase the awareness of wider audiences once the project is over.

The work mostly consists in:

- design, development and maintenance of the website of the project as an open platform for both communication and dissemination;
- online surveys, to be implemented after or before the workshops; conclusions will be open to further electronic debate on the website.
- mobilisation of interested persons and institutions to make them participate in the participatory process;
- management of the directory of participants
- cartography and infography, animations and short videos, and various other media formats helping to make scenarios and visions better understood among stakeholders;

The central communication platform of ET2050 is the www.et2050.eu website.

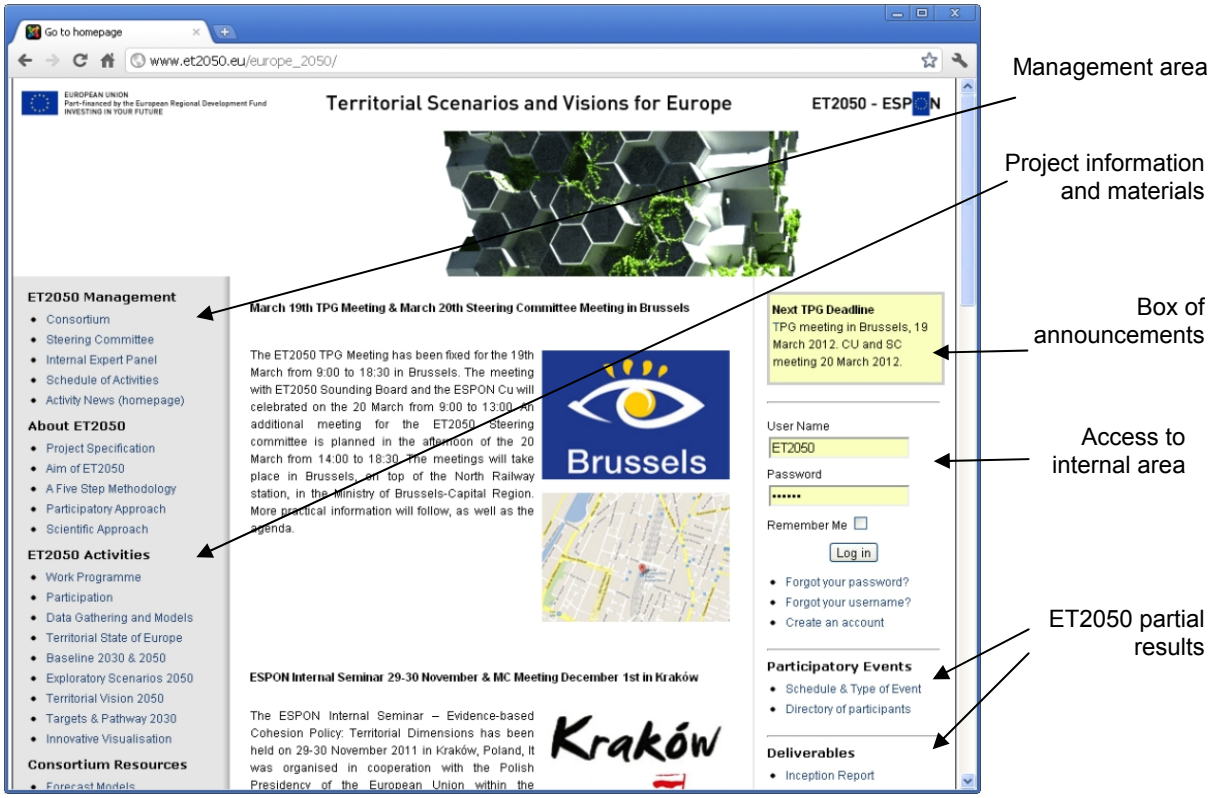

Figure 2-3 ET2050 homepage (www.et2050.eu)

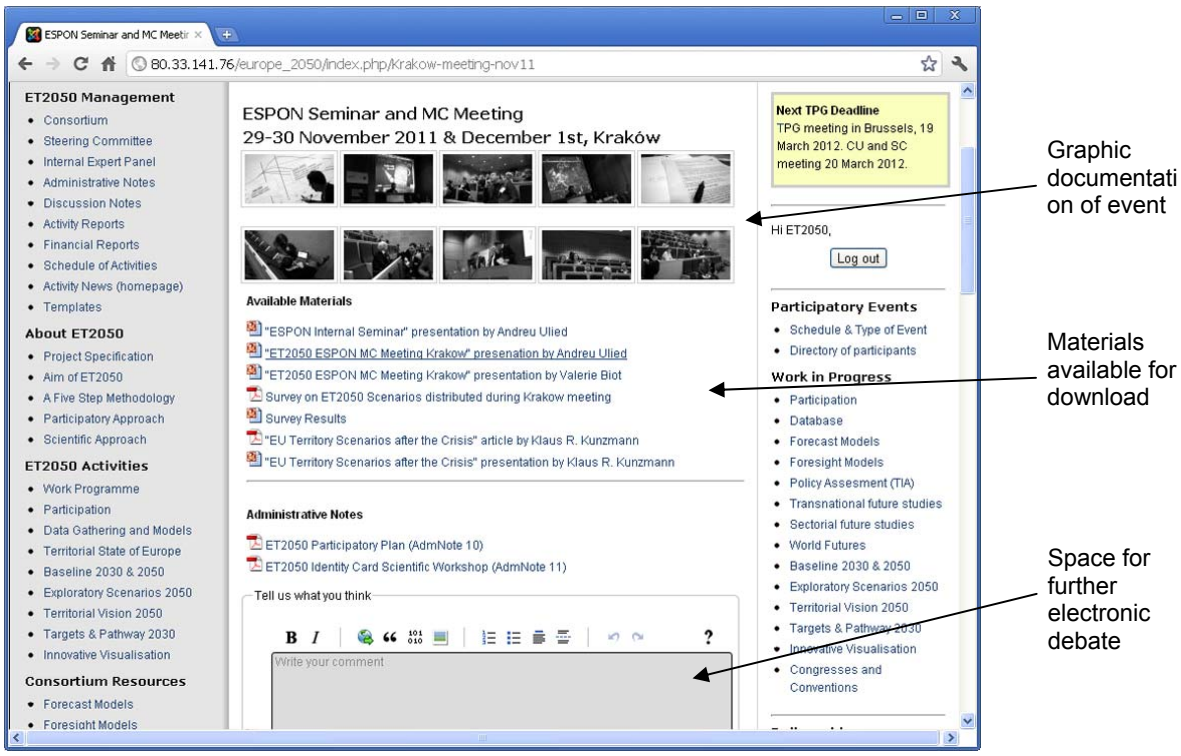

Figure 2-4 Krakow event reported in the ET2050 website

2.4 Innovative visualisation

The work has started by developing a virtual library of images (pictures, drawings, schemes, graphics, slide shows, animations, movies…) created to illustrate scenarios and Visions, and publish it in the website. and the work will continue by developing original infographic and multimedia products for each scenario and for the Vision.

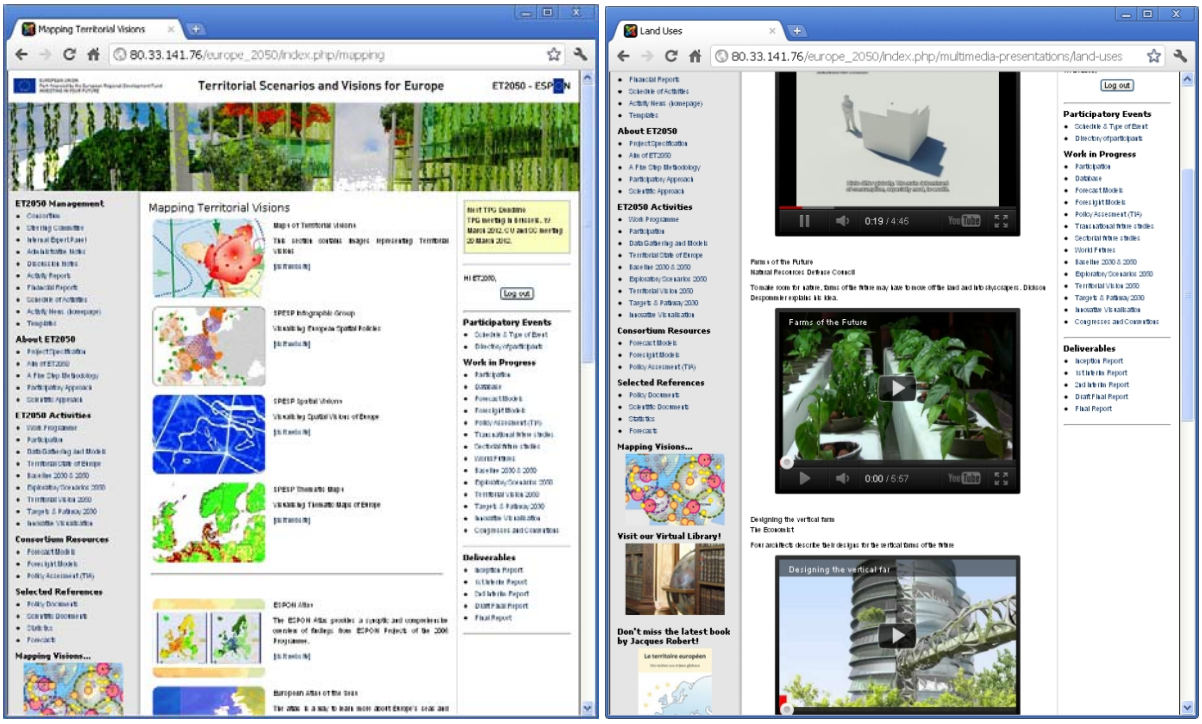

Figure 2-5 Gallery of infographic resources (www.et2050.eu)

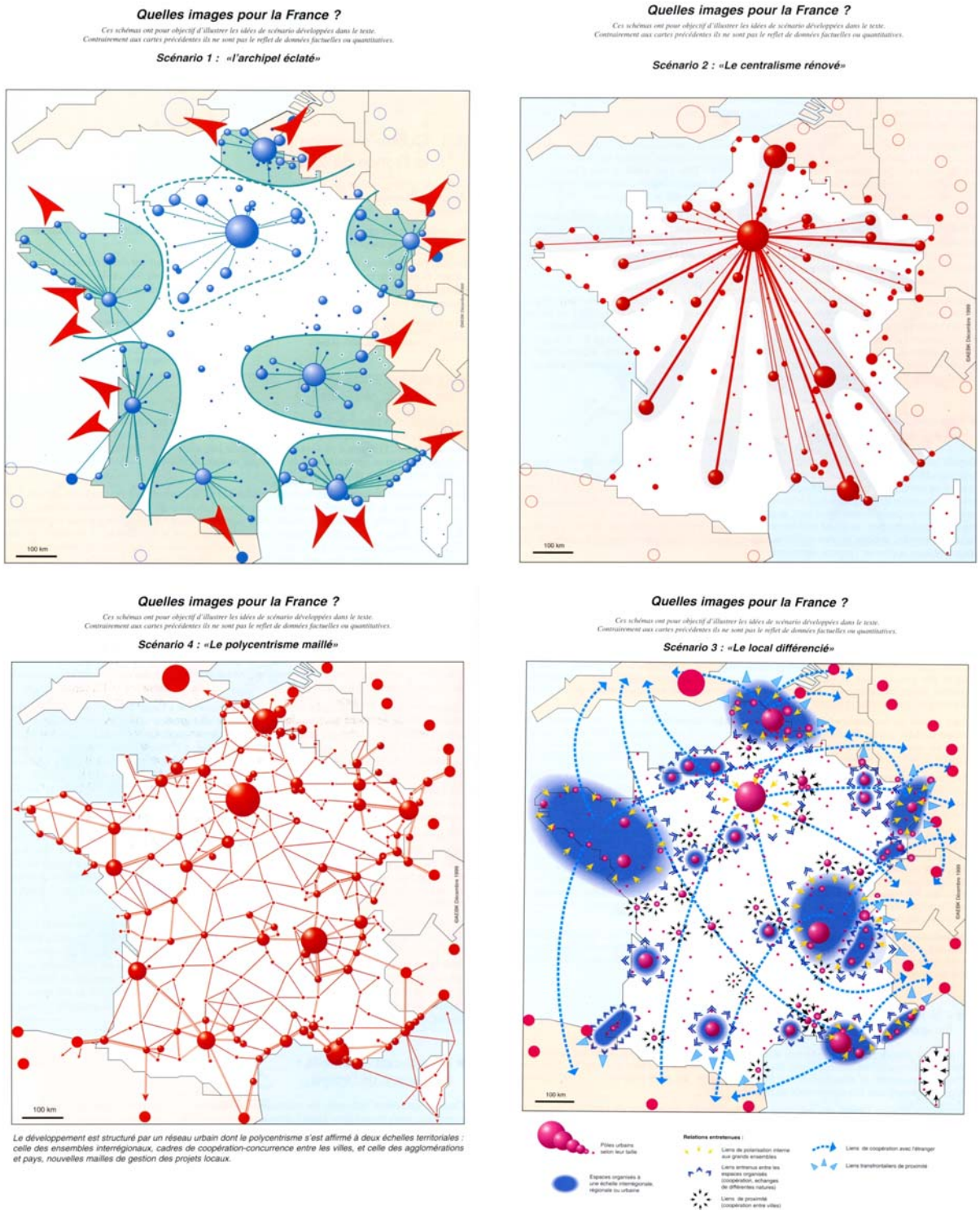

Figure 2-6 Sample of images illustrating territorial scenarios for France included in the catalogue of references (DATAR, AEBK 1999)

For each scenario and for the Vision 2050, 1 minute movies will be produced for communication purposes, integrating key messages and representative images of the scenario, in different media, mostly life video and virtual animation. First versions of the movies will be used first to

help partners working on scenarios to visualise their story lines and then in the participatory events, to illustrate scenarios. In order to make more understandable the scenarios, fictional characters (persons, firms, cities or regions) maybe used in the visual presentation of the scenarios. A first visualisation of scenarios, as a tool to further discuss them, will be presented in the March TPG meeting.

On the other hand, maps will be produced in line with the ESPON design layout, to represent the future territorial scenarios of Europe, and according to sound scientific criteria. Partners responsible for the modelling work will produce the maps required to represent their main results will be later assembled and combined to represent in a synthetic manner the scenarios and the Vision.

A web-based tool to display pre-defined maps interactively will be developed for communication purposes, using royalties-free software tools and cartographic information sources allowing to attach the data used for the production of each map and full metadata description of the data itself and the modelling tools producing them (SPQR forms are already available in the website). This web-tool will not be, strictly speaking, a GIS. All GIS-based information will be transferred to the ESPON CU, together with other databases to be incorporated into the ESPON database. The capacity to easily disseminate maps and data attached to scenarios is considered essential as a tool to trigger stakeholders towards more active and informed participation in the discussions.

3. Participatory Plan

3.1 Approach

The Participatory Plan (ParP) was outlined in the ET2050 project proposal (Part B of the application form, pp.14-15, Work Package 2, Subtask 2.1.1).

The ParP primarily aims to make the building process of the scenarios and the Territorial Vision cyclical and dynamic. This entails involving the ESPON MC and DG Regio in such a way that they take an leading part in the development of the Vision and actively contribute to the discussion and refinement of the Baseline and Extreme Scenarios, as necessary tools to define a play-field for the Territorial Vision. Therefore, the paramount aim of ParP is to create a sense of ownership among ESPON MC in relation to the Territorial Vision..

In line with the ESPON Project Specifications, and taking into account first inputs from the CU and MC members, this final ParP further elaborates on the initial outline to present a comprehensive picture of the participatory activities while providing an indicative calendar, for inclusion in the Inception Report.

The ParP details:

- Which **actors** will participate, and how to establish a **communication flow** with them through the process.
- Which **type of activities** will be organised, from political and scientific workshops/events to personal interviews and on-line interaction, as well as the tentative schedule, and **what is the objective** of the activity (a topic which corresponds to the 'participatory process' item in our proposal, concerning the **role** to be played by the different actors in those activities), in relation to each of the five steps in the development and validation of the scenarios and Vision.
- A temptative **schedule of activities**

This approach will be flexible, adapted and tailored to different moments and actors. Therefore, the ParP will be updated every 6 months, and will take into account further suggestions coming from actors involved in the participatory process. A first tentative time schedule is proposed at the end of this document, outlining potential dates, places, objectives, actors, activities and group dynamics for the whole duration of the project.

An identity card defining each of these topics will be provided to relevant actors two months before the relevant activity (and a draft version will be discussed with the CU three months before the activity). Some preliminary material will be provided on line three weeks before the activity (and discussed with the CU 6 weeks before the activity).

3.2 Actors

Relevant indications have been provided in the ESPON Specifications concerning the four groups of actors, having different involvement along the process.

	MC and DG Regio	Policy makers	Private Sector	Experts
Step 1 - Present State				
Step 2 - Baseline Scenario				
Step 3 – Territorial Scenarios				
Step 4 – Territorial Vision				
Step 5 - Midterm Targets & Policy Recommend.				

Figure 3-1 Involvement of stakeholder groups in the project steps

The Project Specifications requirements and the more concrete ET2050 ParP proposals are presented in the next table:

	Project Specifications requirement	**ET2050 proposal**
Group 1: ESPON MC DG Regio	Should be involved throughout the complete process, on all relevant aspects. Specifically involved in the elaboration of the Vision.	Research results will be periodically communicated and discussed, but not, strictly speaking, on an "on-going basis". Reasonably consistent results will be discussed with Group 1 members, during policy-oriented workshop. Policy-oriented workshops with the MC will be carefully prepared and concentrated on strategic issues. The format of the workshop will be structured. Group dynamic techniques will be used, with the assistance of a qualified moderator. Previous activities (e.g. online surveys according to DELPHI methodologies) will be applied. The TIA methodology to assess the scenarios and the Vision (based on defining policy-evaluation criteria and relative weights by consensus) will play a major role in the discussion of the political goals and aims for the Vision. The method to develop the Vision by achieving previous consensus on the policy-goals, and the criteria and relative weights to assess the Vision will be proposed to ESPON MC, inspired by the TIA methodology (e.g. the one successfully applied in the ESPON ARTS project). Communication with Group 1 members will not take place in policy-oriented workshops only. Complementary events can also be celebrated, as well as other types of communication encouraged (e.g. personal and phone interviews / mail exchange) as appropriate, and in consultation with the CU.
Group 2. Policy makers	EP, DG AGRI, DG TREN, DG Environment, DG MOVE, DG Research, NTCCP, CoR, EESC, CPMR, AEBR, CEMR, Eurocities, etc. and representatives. Involvement during the discussions of Step 3 (Extreme scenarios), 4 (Territorial Vision) and 5 (Midterm targets & Policy Rec.).	Other EU bodies (e.g. European Maritime Safety Agency, European Railway Agency, European Environment Agency, European Investment Bank, European Central Bank, INTERREG programmes, macro-regional conferences, etc.) which are not, strictly speaking, "policy makers" but contribute to policy implementation, as well as non-EU international bodies will also be invited to participate: OECD, CEMAT, WTO, IPCC,. A first directory of potential interesting partners will be created as well as a numner of personal phone calls and interviews to rise awarness on the ET2050 project and start exploring possibilities for celebrating join worshops or consultation groups, in late 2012 or most likely during 2013. Quasi-public interest groups (CPMR, Eurocities, etc.) are very numerous, some of them concentrating on lobbying activities. ET2050 will strive to make them explore the scope for positive-sum games between them.
Group 3. Private sector	Involvement during Steps 3 (territorial scenarios), 4 (Territorial Vision) and 5 (Midterm targets & Policy	The boundary between this category and the quasi-public interest groups referred to above is blurred. The approach for Group 3 will be therefore similar to Group2. The EU "transparency register[1]" provides a very long list of such bodies. To generate a fruitful input from those very numerous and different bodies while avoiding excessive private lobbying pressure, a first selection of

[1] http://ec.europa.eu/transparencyregister/public/consultation/search.do?locale=en&reset (home page copied in the Annex to this note)

	Rec., larger during Step 4.	bodies likely to provide interesting insights will be provided (cf. annex), not necessarily those "territorially-minded" (perhaps even preferably the others...): some organisations outside the "ESPON Community" (e.g. oil industry, banking sector, Eurochambres) may possess information of much relevance for the scenarios. A first contact will be made by phone and/or mail to inform targeted bodies about the ET 2050 project and website (beginning 2012), inviting them to participate in the process, explaining the ET 2050 purpose and clarifying the "rules of the game" of their involvement; Establishment of a communication flow with those having replied positively.
Group 4. Experts	Experts (other than TPG experts) involved in other ESPON 2013 projects and also scientific experts on the relevant policy contexts on territorial cohesion or relevant sector developments such as transport, environment, economy, etc. Involvement in the five steps, especially Steps 1&2, to a lesser but still substantial extent in Step 3, and limited involvement in Steps 4&5	Experts are here understood as individuals that participate providing their own personal views, independently to the institution they belong. While persons representing Member States in the MC, public insitutions, or private corporations, are expected to contribute with the view of their institutions, individual experts are expected to contribute as a free thinkers, on their own. Research results and hypotheses will be presented and discussed during scientific oriented workshops and/or events (cf. activities, heading 2 below), but experts will also be contacted through online surveys. The points made for policy-oriented workshops with the MC may also apply to scientific workshops with experts. The formats of the experts' workshops can be less structured that policy-workshops to encourage free speech and more open interactions. Involvement of experts could also be implemented through other events than workshops. Such events may target specific issues (e.g. relevance of scenarios, discussion on hypotheses associated with extreme scenarios), … Some prominent experts specialised in foresight studies could also be invited to take part in one or more dedicated small group consultations, to comment on draft scenarios and first versions of the Vision.

Figure 3-2 Groups of actors in the Participatory Plan

The participation of actors cannot be paid for. Actors external to ESPON will therefore be involved in the ParP on a voluntary basis, and therefore cooperation between ESPON and other iniciatives and events is important to achieve synergies.

3.3 Activities

The communication format of each activity will be defined according to the nature of participants and the results to be obtained. Generally speaking, well structured formats allowing all participants to intervene in an effective way, will be preferable.

An "Identity card' will be elaborated for each activity, setting out its objectives, format, participants, and providing further detail about the expected outcomes and how they will be used in the context of ET2050. First indications are included in the table below.

In the Project Application (Part B, p.15) six types of participatory activities were proposed, together with a tentative related timing. Further detail is provided about these activities in this section, taking into account the outcome of recent discussions between ET2050 TPG and ESPON CU.

Additional from the three types of workshops/events (listed below), small group consultations, face-to-face interviews and permanent on-line activities are also planned. More targeted consultations could prove extremely efficient and insightful.

Three types of 'workshops' (in-depth sessions) or 'events' (more shalow sessions in relation to the content, often oriented just to rise awarness at the begining of the process and/or disseminate results at the end) are planned at different stages of the project: for each of them, the 'identity card' will specify:

- the objective of the workshop/event, in terms of expected results;
- the attendance expected (type of participants needed + indicative list as appropriate, and their role;
- the duration (from very short to full day sessions), place and agenda/programme;
- the format of the activity
- the participatory tools and resources to be developed and used before (online), during and afterwords (online)..

Background documents will be provided well ahead of the workshop/event to participants and also online interaction in same cases may be considered.

Activities	**Description**
Policy-oriented workshops/events targeted to ESPON MC and DG Regio and other policy makers (Group 1 and Group 2) Number of workshops/events planned: 6	Policy-oriented workshops to review and discuss the 2030 and 2050 scenarios and collectively developing the 2050 European Vision, as well as mid-term targets and pathways. Their focus will evolve throughout the project implementation. When targeted towards ESPON MC and DGREGIO, they could take place during a dedicated session of MC meetings (before or after ESPON seminars in June and November/December, but also other MC meetings around February and September) A first series of workshops will be dedicated to the presentation of, and discussions on - General presentation of ET 2050 and the Participatory plan (December 2011) - Baseline Scenario and Methodology to achieve the Territorial Vision (June 2012) (*) - Baseline Scenario and Territorial Vision (December 2012) (*) - Extreme Scenarios and Territorial Vision (December 2012, June 2013). - Territorial Vision (from December 2012 to June 2014). These workshops/events may also involve other policy makers than MC members (e.g. officials of other DGs of the European Commission, NTCCP members). The workshops will always present a number of alternative scenarios and discussions will consist not just on their relative consistency (that will be assured by the TPG) but mostly on their preferability, in terms of how close or distant they are from the final Vision to be developed. These discussions will be structured using the TIA methodology developed in the ESPON programme and successfully applied in similar future-oriented studies. These workshops will be organised during a dedicated session of an ESPON Seminar, or in conjunction with another event (e.g. a meeting of the Network of Territorial Cohesion Contact Points (NTCCP).

Activities	Description
Scientific workshops/events targeted to scientific experts (including those involved in ESPON projects but also other experts – cf. Group 4 in heading "1. Actors and communication flow" above) Number of workshops/events planned : 6	The scientific workshops/events will exploit the great diversity of scientific expertise and geographic backgrounds of the experts attending the ESPON Seminars, and whenever feasible other scientific conferences. The focus of these workshops will evolve throughout the project implementation. They will mostly take place during dedicated sessions of ESPON Seminars (twice a year), or ESPON Scientific Conferences (end 2012 or beginning 2013), and other conferences, always in collaboration with the ESPON CU. The process will concentrate on discussing, and brainstorming on, - Relevance of the Scenarios defined in the Project Specifications (already celebrated in December 2011); - Baseline scenarios (June 2012 and/or December 2012); - Extreme Scenarios (December 2012, June 2013). Later on, scientific workshops will also be dedicated to exchange of views about successive versions of the draft Territorial Vision (June 2013,, Dec 2013, June 2014). Other complementary participatory activities will also be organised, including general presentations and focus groups (which could be set up on a geographic or thematic basis). The topics and format may vary depending on the type of ESPON Seminar concerned. More informal debates such as individual or group votations in social events such field trips, or diners, can also be planned as a complement.
'Joint' Thematic workshops/events targeted to a mix of Group 2 (other policy-makers) and/or Group 3 ('private sector'), possibly also to foresight experts from different fields (Group 4) Number of workshops /events planned: 3	Thematic workshops may also take place in the framework of ESPON one-day thematic workshops, usually organised by the ESPON CU in October and March, in Brussels. One of those workshops will be fully dedicated to ET 2050 (March 2013, tbc). ET2050 will be present on all this workshops and make a contribution concerning future trends and scenarios, whenever convenient to the aims of the workshop as designed by ESPON CU. Other thematic workshops non specifically dedicated to ET 2050 could nevertheless be used for short activities (e.g. surveys, exchange of information) Ad hoc thematic/joint workshops could take place in collaboration with EU institutions (CoR, EESC, European Parliament, etc.) specially after 2013. Depending on project needs, these workshops will be more policy or scientifically oriented and discuss the scenarios or the Territorial Vision. As a default option, those workshops/events should take place in Brussels. The main interest is to facilitate to stakeholders outside ESPON express their own views. Other participants should primarily belong to Groups 2 and 3 (cf. Section 2 above), including: • other European institutions; • associations of) local and regional bodies (for example to discuss the main features of the territorialisation of the scenarios in a Europe-wide set of transnational territories); • representatives of the civil society (bodies from the private and voluntary sectors) Schedule: • October 2012, March 2013, October 2013, March 2014

Figure 3-3 Type of workshops in the Participatory Plan

In addition to workshops/events, **other types of participatory activities** have been planned, which will be implemented as appropriate, at the time most relevant for the objectives identified:

Activities	Description
Small group consultations (targeted to other policy-makers, mostly in European institutions)	Small group consultations with members of EU Institutions (EP, CoR, ECOSOC, Council) and other European bodies (e.g. Council of Europe, OECD), policy-makers and policy-analysts of different DGs and different sectors, and/or experts and policy makers from the transnational areas identified. Step 1, 2 and 3: exchange of information and input on specific issues, discussion on potential scenarios. Step 4 : input to the development of, and search for a large consensus on, the long term Territorial Vision, Step 5: survey on proposals for midterm target and pathways. As a default option, these consultations may take place in Brussels, where a vast majority of relevant bodies are based. Nevertheless, project partners in charge of transnational reports will also contact key actors in their area of investigation (cf. first directory of key actors in the Inception Report). Small group consultations are an alternative to joint thematic workshops, with a more flexible organisation: they are not linked to ESPON thematic workshops, the number of participants is smaller. They could also be the basis to implement a permanent group of key actors interested in being involved in the project. Small Consultations will be briefly reported and published in the website.
Personal interviews (targeted to policy-makers and/or private institutions)	Conversations with key experts and/or members of the private sector and members of European Institutions, with experts and policy makers from each transnational area identified, as well as thematic specialists from the private sector, by phone, or on line. A tentative list of interviewees will be elaborated at the outset of the project, and thereafter periodically updated. This list should include the various categories and subcategories of Groups 2 (policy makers), 3 ("private sector") and 4 (scientists) of the ESPON specifications. Each partner responsible for a thematic and/or regional analysis report for the "Territorial state and perspectives of the EU" will contact several thematic/regional experts. This will be specifically discussed in the second TPG meeting in Brussels, March 2012. Personal and phone interviews will follow pre-defined questionnaires and will be reported and published in the website.
Permanent on line activities	Permanent interaction through the interactivity facility provided by a dedicated section of the ET2050 website. Online interaction before and after each participatory activity.

Figure 3-4 Other participatory activities integrated in the Participatory Plan

3.4 Time schedule

2011				
Date	**Place**	**Objectives /**	**Actors involved**	**Activity**
30/11	Krakow	Relevance of the scenarios introduced in the Project Specifications	LP ET 2050 Participants ESPON Seminar	**Scientific event 1** Participation in the Scenario session, and survey to all participants.
01/12	Krakow	Validation of ET 2050 overall approach as well as of the participatory approach	ET 2050: LP and PP3 MC, CU, DG REGIO,	**Policy workshop 1** Participation on the ESPON MC meeting. Minutes prepared by ESPON CU and discussed with ET3050 TPG.

2012				
Date	**Place**	**Objectives**	**Actors involved**	**Activity**
01/01 / 30/04		Input to thematic and macroregional reports	Relevant ET 2050 PPs Scientific, policy analyst and policy makers	**Personal interviews**
05	Brussels	Input to / hypotheses for baseline scenarios and exploratory scenarios	Relevant ET 2050 PPs DG Regio Other EU DGs CoR, EESC, EP…	**Panel/small group consultations** Interactive participation
12/06	Aalborg	Baseline Scenario 2030 and 2050: discussion of hypotheses and storyline in relation to their consistency, likelihood and, more important, preferability. Input to to the policy-aims and criteria to elaborate the Territorial Vision	ET 2050 LP PP2 Relevant PPs ESPON MC DG Regio ESPON CU	**Policy workshop 2** Dedicated session on the ESPON MC meeting.
13-14/06	Aalborg	Input to Extreme Baseline Scenario hypotheses	ET 2050: LP Relevant PPs Participants in ESPON open seminar	**Scientific workshop 2** ESPON Open Seminar (dedicated session**)** Interactive sessions (poster, post it) Informal interactions
30/09	Brussels	Input to the fine tuning of the Baseline scenario 2030 2050 storyline Input to Exploratory Scenarios	ET 2050 Relevant PPs Selection of key EU and non EU actors, including Group 3	**CU Joint/Thematic workshop 1** To be decided

04/12	Cyprus Paphos	Discussion on Baseline scenarios 2030 -2050 and input to the exploratory scenarios in terms of consistency, likelihood and mostly preferability. **Decision** on the precise method to elaborate the Vision (based on the TIA approach)	ET 2050 LP,P3 + expert + MC, DG Regio, CU	**Policy workshop 3** Dedicated session of the ESPON MC meeting of 2 hours.
5-6/12	Cyprus Paphos	Input to Extreme Scenarios and to Territorial Vision	ET 2050 LP Relevant PPs Participants in the ESPON seminar	**Scientific workshop 3** ESPON internal seminar, dedicated session and interactive and informal sessions during the Seminar.

2012				
Date	**Place**	**Objectives**	**Actors involved**	**Activity**
02	To be decided	Input to assumptions and development of the Extreme Scenarios	ET 2050 Relevant PPs Participants (scientific experts, Group 4, open to Group 2 and Group 3)	**Expert group consultations** Thematic and/or geographic panel
03	Brussels	Input to hypotheses for Extreme Scenarios Input to the development of the Territorial Vision	ET 2050 Relevant PPs and experts Actors from all groups	**CU Joint Thematic workshop 2** Full day dedicated to ET 2050
06	Ireland	Testing the consistency and likelihood Exploratory scenarios Input to Territorial Vision	ET 2050 Relevant PPs Participants in ESPON Open Seminar	**Scientific workshop 4** ESPON Seminar. Specific 2 hours session,
06	Ireland	Presentation and discussion of the draft exploratory scenarios. Developing the Territorial Vision by consensus building on policy-goals and criteria using TIA approach.	ET 2050 Steering Committee (including PP3 expert) ESPON CU ESPON MC DG Regio	**Policy workshop 4:** MC meeting Eight hours session is suggested.
10	Brussels	Input to the Territorial Vision	ET 2050: LP, PP3 and expert Relevant PPs Key actors from Groups 2 and 3	**Policy group consultations** Four hours session

12	Lithuania	Input to midterm target and pathways	ET 2050 relevant PPs Participants to ESPON seminar	**Scientific workshop 5** ESPON Internal Seminar
12	Lithuania	**Validation** of the draft Territorial Vision in its version before feasibility studies are carried out Input to midterm target an pathways	ET 2050 Steering Committee (including P3 expert) ESPON MC DG Regio, CU	**Policy workshop 5** MC meeting

2014				
Date	**Place**	**Objectives**	**Actors involved**	**Activity**
03	Brussels	Consensus building on the Territorial Vision Input to mid-term targets and pathways	All groups	**Joint/ Thematic workshop 3**
06	Greece	Consensus building on the Territorial Vision and input to mid-term target and pathways	ET 2050 relevant PPs and experts Participants in ESPON Open seminar	**Scientific workshop 6** ESPON Open seminar
06	Greece	**Validation** of the Territorial Vision **Validation** of midterm targets and pathways	ET 2050 Steering Committee ESPON MC DG Regio ESPON CU	**Policy workshop 6** MC meeting

Figure 3-5 Tentative schedule of the Participatory Plan

4. Data gathering, forecast and foresight modelling resources

In order to support the process of defining scenarios and the Vision, different tasks are devoted to update and harmonise databases, improving the design and/or geographic coverage of the models according to the needs of the exercise, to establish linkages between the various models to be used, and to specify the kind of policy-relevant indicators most likely to be needed for the Territorial Impact Assessment while clarifying the models' ability to provide them.

4.1 Database gathering

Data gathering process are linked to the needs of the different forecast and foresight models to be applied in ET2050. Forecast models to be used in ET2050 already have large databases at NUTS2 or NUTS3 level for the different sectors covering the EU27 or the ESPON space, depending on the forecast model. As inputs to forecast models, databases will be used to produce figures for baseline, extreme scenarios, and pathways towards the 2050 Vision. Efforts invested in database updating and harmonisation will concentrate on expanding their geographical coverage and updating datasets (see below in *Forecast Models)*.

Common data (relevant input and output indicators) will be structured in Microsoft EXCEL or ACCESS according to ESPON CU metadata standards, to be included in ESPON database. NUTS2 level will be used as the geographic reference for most indicators, but also NUTS3 and even more detailed references (e.g. 1 km2 raster cells) will be used whenever needed. Partners responsible for models will be responsible for updating and extending databases according to their own needs (see next Section).

Complementarily, a research at EU and World level will be carried on available quantitative databases on sectoral trends both in the past (down to 1950, or before) and in the future, to feed foresight tools. Databases will be assembled from regional and global forecasts produced by recognised international organisations or global corporations.

A selected number of sources has already been identified, briefly presented in the next table, and is accessible through the ET2050 virtual library (http://www.et2050.eu/Et2050_Library/).

Acronym	Name of institution or corporation	Database website
EUROSTAT	Eurostat	Epp.eurostat.ec.europa.eu
EU DGs	EU Directorate Generals	*Various sites*
EEA	European Environmental Agency	http://www.eea.europa.eu/data-and-maps
EIB	European Bank of Investment	http://www.ecb.int
ECB	European Central Bank	http://www.eib.org/
UN/NU STATS	United Nations Statistics Division	http://unstats.un.org/
OCDE/OECD	OCDE	www.oecd.org/
WB/BM	World Bank	http://www.worldbank.org/
IMF/FMI	International Monetary Fund	www.imf.org/
CIA	Central Intelligence Agency	https://www.cia.gov/library/publications/the-world-factbook
UCB IDS	US Census Bureau International Data Base	http://www.census.gov/ipc/www/idb/
UNDP	UN Development Programme	http://www.undp.org/
UNICEF	United Nations International Children's Emergency Fund	http://www.unicef.org
UNCTAD	United Nations Conference on Trade and Development	http://www.unctad.org
UNIDO	United Nations Industrial Development Organization	http://www.unido.org/
UNDESA	United Nations Department Of Economic And Social Affairs	http://www.un.org/esa/
WHO	World Health Organization	http://www.who.int/en/

Acronym	Name of institution or corporation	Database website
FAO	Food and Agriculture Organization of the United Nations	http://www.fao.org/
UNWTO / OMT	UN World Tourism Organisation	http://www.unwto.org/
ILO/OIT	International Labour Organisation	http://www.ilo.org/stat/index.htm
WHO/OMS	World Health Organisation	www.who.int
WTO/OMC	World Trade Organisation	http://www.wto.org/
WIPO/OMPI	World Intellectual Property Organisation	http://www.wipo.int/ipstats/en/
WTTC	World Travel & Tourism Council	http://www.wttc.travel/
BIS	Bank For International Settlements	http://www.bis.org/
GGDC	Groningen Growth And Development Centre	http://www.ggdc.net/
EU KLEMS	Eu Klems Growth And Productivity Accounts	http://www.euklems.net/
IEA	International Energy Agency	http://www.iea.org/
IPCC	Intergovernmental Panel on Climate Change	http://www.ipcc.ch/
BP	BP Statistical Services	http://www.bp.com
CEPII	Centre d'Etudes Prospectives et d'Informations Internationales	www.cepii.fr/
CSP	Center for Systemic Peace	http://www.systemicpeace.org/
MAR	Minorities at Risk	http://www.cidcm.umd.edu/mar/

Figure 4-1 Databases with EU or global international coverage

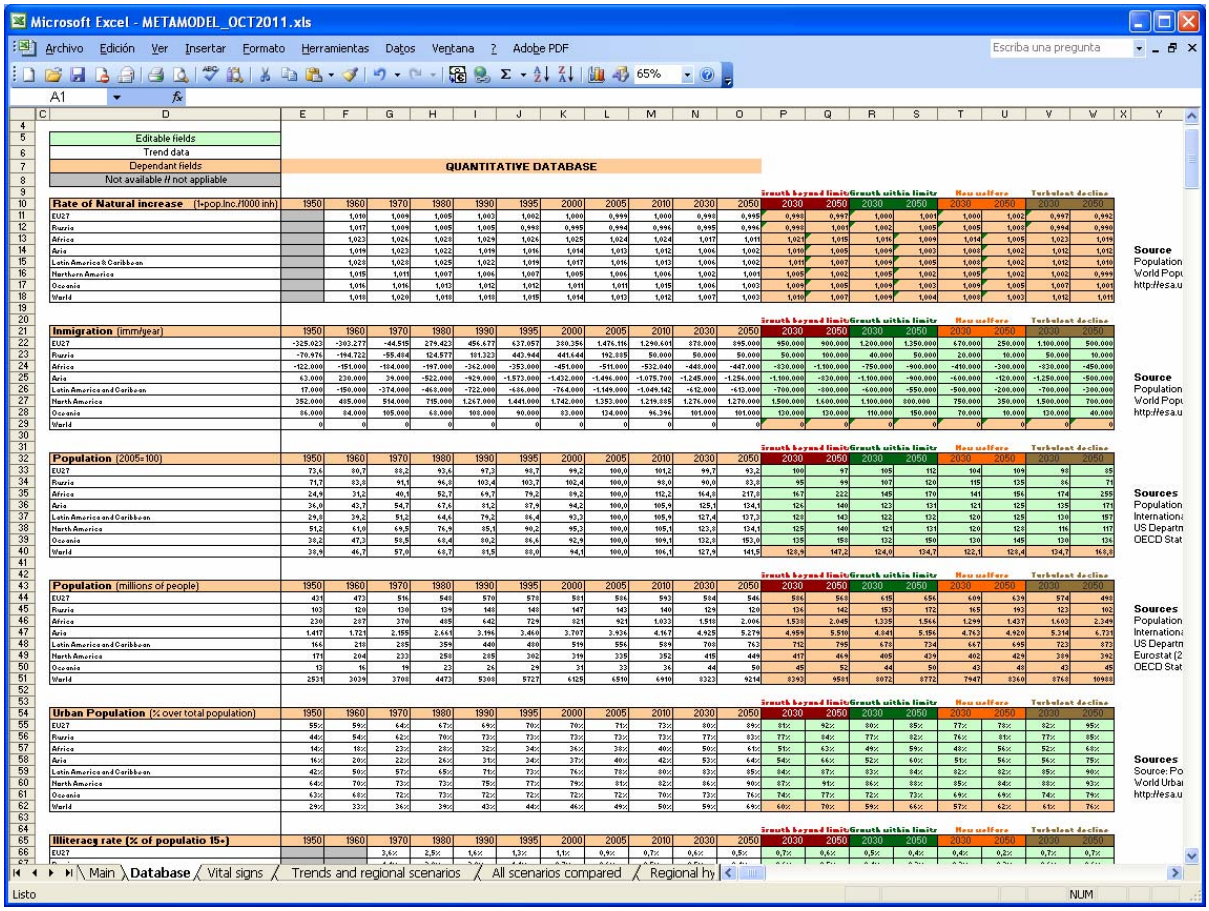

Figure 4-2 Harmonisation of indicators at global level by PASH+ meta-model (Pashmina EU 7FP) as starting point for ET2050

4.2 Forecast models

Overview of ET2050 Models

The models to be applied in ET2050 are those included in the next table:

Domain	Forecast Model
Demography	MULTIPOLES. Cohort-component, hierarchical, multiregional, supranational model of population dynamics
Regional Economy	MASST. Econometric, macroeconomic, sectoral, social and territorial
Transport	MOSAIC. Integrated modal split and traffic assignment based on TRANSTOOLS OD trip matrices
Land-use	METRONAMICA. Spatial and dynamic land use model that uses constrained cellular automata to allocate land uses
Integrated	SASI Dynamic system linked to transport networks

Figure 4-3 Forecast Models to be used in ET2050

MULTIPOLES is a cohort-component, hierarchical multiregional supranational population dynamics model. It is used for projections, simulations and forecasts of complex hierarchical multiregional, multi-country population systems; for analysing impact of various scenarios concerning migration, fertility, mortality and economic activity on population and labour force size and structure. Continuously developed since 1996 to include new options, it has been applied in a number of projects, most recently in DEMIFER. It was specifically designed to model the impact of various categories of migration: internal, international within the system (e.g. within EU) and from outside of the modelled system. It can also be used for modelling multistate population of a single country (e.g. population by nationality). MULTIPOLES is based on cohort-component, female-dominant hierarchical multiregional supranational model theory, building on the ideas of the multiregional models developed by A. Rogers, F. Willekens and P. Rees. MULTIPOLES specifically uses Rees' concept of multiregional hierarchical population dynamics models.

MASST is a model for creating scenarios of regional economic growth in the medium-long run under different scenarial bifurcations. MASST is an econometric, macroeconomic, sectoral, social and territorial model. It works on a EU-27 basis (except remote islands and French Overseas departments), but can be extended to the non-EU countries belonging to ESPON space by spatial extrapolation

MOSAIC is an integrated modal split and assignment module for passengers applied to TRANS-TOOLS trip distribution matrices. TRANS-TOOLS is the best state-of-the-practice transport-oriented forecast model available at EU level. DGMOVE has required the application of TRANSTOOL model in all studies carried out during the last years in the process to redefine the Transeuropean transport networks and the new Transport White Book 2010-2020. TRANS-TOOLS model is continuously being improved in different projects of the 7FP European Framework Programme. In the INTERCONNECT (2010) MCRIT developed the MOSAIC model, based on TRANSTOOLS trip generation and distribution results, being also applied in ORIGAMI (2011-2012) to assess four different transport policy-scenarios for 2030.

METRONAMICA is a generic state-of-the-art land use change model that has been applied for areas ranging from cities to the European Union (EU 27). Currently more than 100 applications of the model have been set up worldwide (for an overview see www.metronamica.nl). Applications include stand-alone versions as well as integrated systems (such as Xplorah, MedAction and WISE) that include the Metronamica land use model. Metronamica is a dynamic and spatially explicit cellular automata-based land use model that allocates regional land use demands to a local

grid of which the cell size varies between 25 x 25 m and 1000 x 1000 m, depending on the area under investigation. The model is used for scenario studies, policy analysis as well as research projects. Metronamica is being improved continuously by dedicated product development as well as through enhance-ments required for project work. These improvements are scientific (making a better model), technical (making a more efficient model), user oriented (making the tools easier to use), or rele-vance oriented (developing tools and indicators that better reflect the needs of policy makers).

SASI is a recursive simulation model of socioeconomic development of regions in Europe subject to exogenous assumptions about the economic and demographic development of the European Union as a whole and European and national subsidies and infrastructure investments. The SASI model differs from other approaches to model regional development by modelling not only production (the demand side of regional labour markets) but also population (the supply side of regional labour markets). The SASI model was applied in EU projects SASI, IASON, ESPON 1.1.1, ESPON 2.1.1, ESPON 1.1.3, AlpenCorS, STEPs, SETI and national projects in Germany.

Forecast models are documented in ANNEX 2 according the SPQR protocol[2] to clarify the data (or samples), the formulation (or postulates), the legitimate questions they can answer, and the results they produce. SPQR forms are available for download from ET2050 website (http://80.33.141.76/europe_2050/index.php/adapting-forecast-modelling-resources).

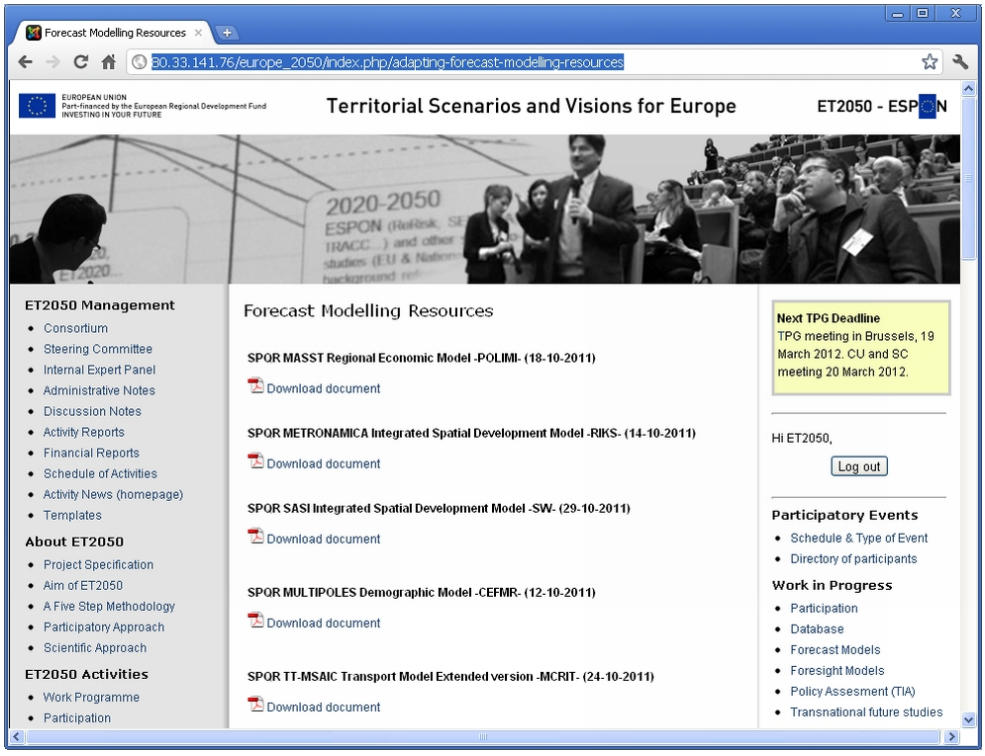

Figure 4-4 SPQR forms documenting each model

Model input and output indicators

The inputs and outputs of models are detailed below (for full documentation on the models consult SPQR forms at ANNEX 2 or in the project website)..

[2] *The SPQR protocol was developed in the spotlight TN 5th EU Framework Programme (2001)*

MULTIPOLES	
Reference data from	In DEMIFER: Mortality data 2003-2006, fertility data 2004-2005, internal migration data 2004-2006 (or earlier), international migration matrix 2002-2006, immigration and emigration 2001-2006 (years differed between the countries), economic activity rates 2004-2005
Data inputs	Initial (start) population; Scenarios for future fertility, mortality, internal migration, international migration within Europe, extra-Europe migration and economic activity; Typology of regions (optional).
Main data sources	EUROSTAT, National Statistical Offices, MIMOSA project, DEMIFER estimates
Geographic coverage	EU27 + EFTA
Model Outputs	
Population	By region, 5-year age group and sex By country, 5-year age group and sex Total population by region type and sex
Labour force	By region, 5-year age group and sex By country, 5-year age group and sex By region, broad age group (15-25, 25-40, 40-65, 65+) and sex By country, broad age group (15-25, 25-40, 40-65, 65+) and sex
Dependency ratios	4 dependency ratios: ODR, EODR, LMDR and VODR: by country, by region type, by region (see model documentation for the dependency ratios definitions)
Population accounts	By region and by country, for each sex and 5-year projection step: births, deaths, natural increase, internal in-migration, internal out-migration, immigration within Europe, emigration within Europe, immigration from outside Europe, emigration outside Europe, net migration, total population change
Life expectancy at birth	By region, sex and 5-year projection step
Crude birth rates and crude death rates	By region and by country, for each 5-year projection step

MASST	
Reference data from	Currently 2005
Data inputs	At national level, insert hypotheses on: Real interest rates Unit labour costs FDI Exchange rates Inflation rate US & Japan growth BRICs growth Public Expenditure Trend in import Trend in investments Trend in consumptions Trend in exports At regional level, insert hypotheses on: Changes in location of sectors Human resources in science and technology Infrastructure endowment Energy consumption Functions performed by the regions in the labour market Degree of trust Unemployment rates Birth rates Death rates Energy consumption Energy prices European migration levels

Main data sources	EUROSTAT and ESPON databases.
Geographic coverage	EU-27 (except remote islands and French Overseas departments). Can be extended to the non-EU Espon Countries only by spatial extrapolation
Model Outputs	
Economy	GDP (total and per capita) at National level and NUTS2 level Employment growth: Manufacturing and Services Growth spillovers
Society	Population growth (at National and NUTS2 level) Regional Migration (3 age classes)

MOSAIC	
Reference data from	2005
Data used for calibration	MOSAIC internal parameters are calibrated with TRANS-TOOLS 2005.
Data inputs	Multimodal Transport Networks (25.000 links) including detailed intermodal exchanges and proxy to long-distance passenger services. Information restricted. TENCONNECT socioeconomic, trip generation and distribution databases 2005-2020-2030 produced by TRANSTOOLS for baseline scenarios at NUTS3 level. Publically available information.
Model Outputs	
Transport endowment	Aggregated, by NUTS3, by mode
Costs of travelling	Between NUTS3 by trip purpose using optimal transport chains
Time of travelling	Between NUTS3 by trip purpose (business, leisure, visit)
Trips	Between NUTS3 by trip purpose (business, leisure, visit)
Modal shares	% trips between NUTS3 by trip purpose (business, leisure, visit)
Modal chains	% length or time or cost between NUTS3 by trip purpose (business, leisure, visit)
Emissions	CO_2 by network link, aggregated at NUTS3 or NUTS0

METRONAMICA	
Reference data from	2006
Main data sources	Corine Land Cover Data, Natura 2000 Network, GISCO transport data base, population and job forecasts from other ET2050 project partners, suitability base maps (DEM). Data about spatial plans that are available can be introduced during the modelling work
Geographic coverage	EU27 (limited by data availability: the Corine land cover database only includes data for EU27)
Model Outputs	
Land use map	Land use maps with a resolution of 1km2 for the EU27 for 2030 and 2050
Land use animation	Land use animations with a resolution of 1km2 for the EU27 displaying yearly changes from 2006 to 2050
Indicator map(s)	Indicator maps with a resolution of 1km2 for the EU 27 for 2030 and 2050 (if required).
Indicator animation	Indicator animations with a resolution of 1km2 for the EU 27 displaying yearly changes from 2006 to 2050 (if required).

SASI	
Reference data from	Regional data: 2004 (update to 2007 ongoing), network: data 2007 (continuously updated).
Data used for calibration	GDP per capita by industrial sector, labour productivity by industrial sector, endowment factors, labour force and regional transfers by NUTS3 region and node and link data for strategic road, rail and air networks for 1981, 1986, 1991, 1996, 2001, 2006.

Data inputs	Socioeconomic data for 1,276 EU NUTS3 regions, 54 equivalent regions in other European countries and 41 external regions. Multimodal transport networks with 16,000 road links, 11,500 rail links, 6,300 air links and about 5,000 access links between region centroids and network nodes for every fifth year between 1981 and 2031 (update of regional data to 2007 ongoing).
Main data sources	Region data maintained by S&W, network data maintained by RRG (restricted information).
Geographic coverage	ESPON Space and Western Balkan
Model Outputs	
Population indicators	Population by age, sex, nationality, labour force participation, education, net migration and net commuting by NUTS3 region
Economic indicators	GDP by industry, by worker, by capita, employment by industry and unemployment by NUTS3 region
Accessibility indicators	Accessibility by mode (travel/goods) by NUTS3 region
Cohesion indicators	Cohesion and polycentricity indicators of NUTS3 regions
Transport indicators	Travel and goods flows between NUTS3 regions by mode by year (development ongoing).
Environmental indicators	Energy consumption and CO_2 emissions of transport by NUTS3 region by year (development ongoing)

Model's interactions

The next steps have been planned:

1. Foresight models will provide a set of key indicators for all scenarios, as starting point, aiming to help modellers a better understanding of the nature of scenarios.
2. MULTIPOLES will provide fertility and mortality rates' forecasts to MASST (economic model), plus population forecasts to MOSAIC (transport model) and METRONAMICA (land-use model), and will allow for meta analysis with SASI (common output indicators: population, migration).
3. MASST will be responsible to provide economic inputs for other ET2050 models
4. MOSAIC will be fed from MULTIPOLES as for population forecasts, from MASST as for economic forecasts (to be discussed how could integrate METRONAMICA results) and from SASI in terms of population, GDP, transport networks. The model can feed transport outputs into SASI.
5. METRONAMICA will be fed by MULTIPOLES for the demographic characteristics of the model, by MASST to portray the labour market, and possibly by SASI to incorporate transport networks. Metronamica will use the 'final' projection of population and jobs/GDP at regional level that will come out of the meta-analysis of other models' results (see next chapter) as one of the drivers of the land use model.
6. The holistic approach of the SASI model will allow for meta-analysis, contrast and discussion of results and inputs with most of the models. In this sense, the SASI model can be fed by and feed into all other models, mostly in terms of population, GDP, labour market, transport and environment.
7. Foresight models will be updated using the SASI meta-analysis process for 2030
8. Foresight models will produce 2050 results complementing the forecast models able to run up to 2050.

Next table includes the planned interactions. Each column refers to a model. In each column, cells describe the required input by the model or resulting output from it for the different topics listed in rows (demography, economy, land-use, transport, energy, environment).

		MULTIPOLES *(demography model)*	**MASST Model** *(econometric model)*	**MOSAIC** *(transport model)*	**METRONAMICA** *(land-uses model)*	**SASI** *(integrated 2030-2050 model)*
DEMOGRAPHY	*Input*	Start population // Scenarios for future fertility, mortality, internal and international migration // Economic activity	Fertility and mortality rates	Population forecasts	Population forecasts	Socioeconomic data for ESPON Space plus Western Balkan
	Output	Future population and labour force in 5-year steps by NUTS2 region, age and sex // Dependency ratios // Population accounts // Life expectancy at birth // Crude birth and death rates	Population growth // Regional migration			Population by age, sex, nationality, education, net migration and net commuting by NUTS3 region by year.
ECONOMY	*Input*	Activity rates 2004-2005		GDP by sectors	Labour market forecast	Socioeconomic data for ESPON Space plus Western Balkan
	Output	Labour Force	GDP by sectors // Employment growth // Growth spillovers			GDP by industry, by worker, by capita, employment by industry and unemployment by NUTS3 region by year. Labour force participation.
LAND-USE	*Input*				Corine land-use covers // Natura 2000 // Spatial Plans	
	Output			Connectivity	Land-use maps (1km2 grid)	Accessibility by mode (travel/goods) by NUTS3 region by year. Cohesion and polycentricity indicators of NUTS3 regions by year.
TRANSPORT	*Input*		Transport infrastructure endowment	Trans-Tools OD pairs for NUTS3 (2005 // 2030) // Mobility rates // Multi-modal transport networks (2005 & 2030) //	Multi-modal transport networks	Multi-modal transport networks (1980 to 2030)
	Output			Travel cost & time // Modal split // Traffic Assignement// Modal Chains // Intermodality // endowment // Infrastructure investment		Travel and goods flows between NUTS3 regions by mode by year (development ongoing).

		MULTIPOLES *(demography model)*	**MASST Model** *(econometric model)*	**MOSAIC** *(transport model)*	**METRONAMICA** *(land-uses model)*	**SASI** *(integrated 2030-2050 model)*
ENERGY	*Input*			Vehicle fleet // Consumption factors // Electricity mix		
	Output			Energy consumption of transport by NUTS3 region by year (development ongoing)		Energy consumption of transport by NUTS3 region by year (development ongoing)
ENVIRONMENT	*Input*					
	Output			CO2 emissions		CO2 emissions of transport by NUTS3 region by year (development ongoing)

Figure 4-5 Forecast models' interactions

Data availability

Forecast models included in ET2050 already have large databases at NUTS2, NUTS3 or local level for the different sectors covering the EU27 or the ESPON space, depending on the model. Efforts will be invested in:

- expanding geographically available databases of ET2050 models in order to cover the entire ESPON Space and, if needed, extra neighbouring countries;
- on updating databases by gathering retrospective information for key indicators at global and European aggregated scales (from 1950 to 2010).

The current state of data availability in non-EU27 countries, that is in ESPON Space countries not belonging to the EU (Iceland, Norway, Switzerland and Liechtenstein), and in EU candidate and potential candidate countries (Western Balkans and Turkey) and other neighbouring countries (Maghreb, Middle East, Russia), has been summarised in the following table:

MULTIPOLES	
Non-EU ESPON Space countries (Iceland, Norway, Switzerland and Lichtenstein)	Data (or estimates) available for all ESPON partner countries, including estimates of international migration matrix 2002-2007. More recent data available for fertility and mortality. Consistent estimates of international migration since 2008 not available.
Candidate and potential candidate countries (Western Balkans and Turkey)	Some fertility and mortality data available from Eurostat or NSIs websites for all the countries (except age-specific mortality for Albania and Bosnia&Herzegovina), but no NUTS2 (or equivalent) data for Serbia and B&H. Consistent estimates of international migration not available.
Other neighbouring countries	Belarus, Moldova, Russia, Ukraine, Algeria, Egypt, Morocco, Tunisia: consistent estimates of international migration not available. Fertility and mortality data (on national or regional) level available from

	NSIs' websites for Belarus, Moldova, Russia and Ukraine (except mortality by sex and age for Ukraine). Some data available from NSIs' websites for Northern Africa: fertility and mortality for Algeria, fertility for Tunisia; no data for Morocco and Egypt.

MASST[3]	
ESPON space countries *(Iceland, Norway, Switzerland and Lichtenstein)*	Data for the 4 non-EU ESPON countries should normally be available in sufficient detail to allow the spatial extrapolation procedure to be run and results presented.
Candidate and potential candidate countries (*Western Balkans and Turkey*)	The availability of enough regional data for these countries will be explored once the new estimations become available (since the variables included in the MASST model will likely expand with re-estimation); provided there are enough data, also these countries will be included in the scenarios through spatial extrapolation.
Neighbouring countries (*Belarus, Moldova, Russia, Ukraine, Algeria, Egypt, Morocco, Tunisia*)	It is unlikely that sufficiently detailed data at regional level for these countries will be available, but their presence will be explored once the MASST is re-estimated and, whenever possible, also these countries will be included through spatial extrapolation.

MOSAIC	
Non-EU ESPON Space countries (Iceland, Norway, Switzerland and Lichtenstein)	Data is available for all ESPON partner countries: Transport networks (road, rail, air, ferry) and travel data (trip origins and destinations). Resolution of data is lower than in EU27 countries: transport networks are less dense, and origin / destination polygons are generally bigger than in EU27.
Candidate and potential candidate countries (Western Balkans and Turkey)	Data available is available for Western Balkans and Turkey. Networks and travel data are however available at a lower resolution than in EU27 countries.
Other neighbouring countries	Data available for Ukraine, Belarus, and parts of Russia, but at a lower resolution at a lower resolution than in EU27 countries. No data is available for neither Northern Africa nor the Middle East.

METRONAMICA	
Non-EU ESPON Space countries (Iceland, Norway, Switzerland and Lichtenstein)	No data is currently available in Metronamica for countries outside EU27. For countries within EU27 use is made of the Corine Land Cover database, the GISCO transport network and base layers for physical aptness of the land to maintain various land uses as well as base layers for spatial planning which portray the zoning regulations for them. In case land use data in the same projection and with the same classification as CLC and transport data is available for the ESPON space countries, one or more of these countries will be included (using the same parameters as the EU27 application). In this case the socio-economic models within ET 2050 should be able to deliver regional data on population and jobs/GDP, similar as will be done for EU27 and a regions map needs to be available for the countries that will be included.
Candidate and potential candidate countries (Western Balkans and Turkey)	No data available. Given the same restrictions as mentioned above, one or more of these countries could be included.
Other neighbouring countries	No data available, but not required. Metronamica will be used in ET2050

[3] Methodological premise: The MASST model is and will remain estimated on the 27 EU countries because of two main scientific reasons: (1). The econometric estimation of structural relationships requires a significant degree of homogeneity between the various countries, otherwise the parameters obtained are spurious, and the EU27 already has a non-negligible degree of statistical heterogeneity between Old15 and New12 member countries; (2). The estimation on all regions of a large number of countries imposes limitations in the number of observations since only regions with data for all variables can be used in the estimations. Adding countries and regions decreases the depth of the model in terms of variables which can be used and hence reduces its explicative power. However, the results of the MASST model can be extended beyond its estimation sample through an ad-hoc procedure, i.e. one of spatial extrapolation as developed and used within ESPON 3.2, provided a minimum number of regional characteristics are available

	to allocate regional development to a local grid. Neighbouring countries will mainly impact on the national and regional level dynamics and hence these effects will be included in the other models, based on which Metronamica will calculate the land use allocation.

SASI	
Non-EU ESPON Space countries (Iceland, Norway, Switzerland and Lichtenstein)	Data available from national sources, update ongoing
Candidate and potential candidate countries (Western Balkans and Turkey)	Data available at lower resolution from national sources, update and further spatial desegregation ongoing.
Other neighbouring countries	Data available at lower resolution from national sources, update and further spatial desegregation ongoing.

Figure 4-6 Data availability for ET2050 models outside EU27

Model's improvements

Under the time and budget constraints of the project, ET2050 models will be adapted and extended to include additional data to cover the entire ESPON space where necessary, to increase their capacity to interact with other models, as well as to provide the indicators needed for the TIA.

ET2050 models will also be enhanced to be able to address new questions which will allow for a deeper analysis of scenarios in ET2050:

- MULTIPOLES will adapt population and labour force size and structure forecasts to the needs of ET2050 scenarios
- MASST will investigate how to better analyse the impact of economic cycles and crisis, and how to better include the effects of regional innovation
- MOSAIC will investigate how changes in population, economic growth and travel behaviour may induce different mobility flows and patterns (future MOSAIC versions may provide trip Origin–Destination matrices for ET2050 alternative scenarios), and attempt at providing a proxy to the socioeconomic profitability of new infrastructure investments.
- METRONAMICA will investigate the impact of (newly introduced) scenarios for population and jobs/GDP from the other ET2050 models on the land use developments in Europe, and thus provide spatially explicit land use scenarios through land use maps with a resolution of 1 x 1 km2. If data on spatial plans or infrastructural changes is available for these scenarios, this information can be included as well in the analysis of the spatial configuration of future land use developments.
- SASI will incorporate flows of passengers and goods, and environmental indicators of transport (energy consumption, CO2 emissions).

4.3 Meta-analysis of model's results

The already introduced forecast modelling tools will be used to assess the likely impacts of the Baseline Scenarios for 2030 and 2050 (in ET2050 Task 2.4) and exploratory scenarios (in ET2050 Task 2.5). For this the models will be adapted in different aspects, as far as possible (in Task 2.2).

To make the model results useful for the comparison and evaluation of the scenarios, they need to be integrated, i.e. be made consistent as far as possible. For this it is proposed to use a meta-analysis of model results.

A meta-analysis of model results is a way to cross-validate the results of different models by systematically comparing their results, to identify differences between them and if they differ explores the reasons why. In other words, a meta-analysis of scenario results treats scenarios as observations with attributes, and explores cause-effect relationships between their input and output attributes.

The comparison between the model results may be difficult because the models, despite the integration efforts of Task 2.2, may have different systems of regions, different forecasting horizons, different assumptions about external trends and different assumptions about the implementation of policies in the scenarios.

These difficulties can be overcome by a standardisation of the indicators to be compared and by comparing not absolute values of indicators but percent differences between the exploratory scenarios and the baseline scenario.

Alternatively, the comparison may be made independent from differences in the scenario definitions in the models by comparing not indicators by scenario but correlations between indicators irrespective of the scenarios to which they belong. For this, univariate and multivariate regressions can be applied:

- Univariate regressions explore the correlation between two scenario attributes based on a hypothesis about a cause-effect relationship between them. If the coefficient of determination (r^2) is high, it can be concluded that the agreement between the models about the cause-effect relationship is high.
- Multivariate regressions explore the correlation between three or more scenario attributes based on hypotheses about cause-effect relationships between them. One of the attributes is the dependent variable to be explained. The other attributes are the independent or explanatory variables. Multivariate regressions have the advantage over univariate regressions in that they take account of interactions between explanatory variables. If the coefficient of determination (r^2) is high, it can be concluded that the agreement between the models about the interactions between the variables is high.

In ET2050 the meta-analysis will be performed in the following steps:

- (1) In a first step the range of common input and output indicators and the regions or macro regions and years for which they can be provided by the five models will be determined by the task leader in communication with the modelling teams.
- (2) Based on the results of this review, the task leader will distribute a common template for providing the agreed upon indicators.
- (3) After the first round of scenario simulations, the modelling teams will collect the indicators and send them to the task leader using the template.
- (4) The task leader will conduct the meta-analysis using univariate and multivariate regression analysis and report the results in a discussion note.
- (5) The results of the meta-analysis will be discussed with the modelling teams and may lead to another round of scenario simulations for some of them.

Figure 4-7 is an example of the result of a meta-analysis conducted in the STEPs project (Fiorello et al., 2005) showing the degree of agreement of six different models about the relationship between car distance and CO_2 emissions

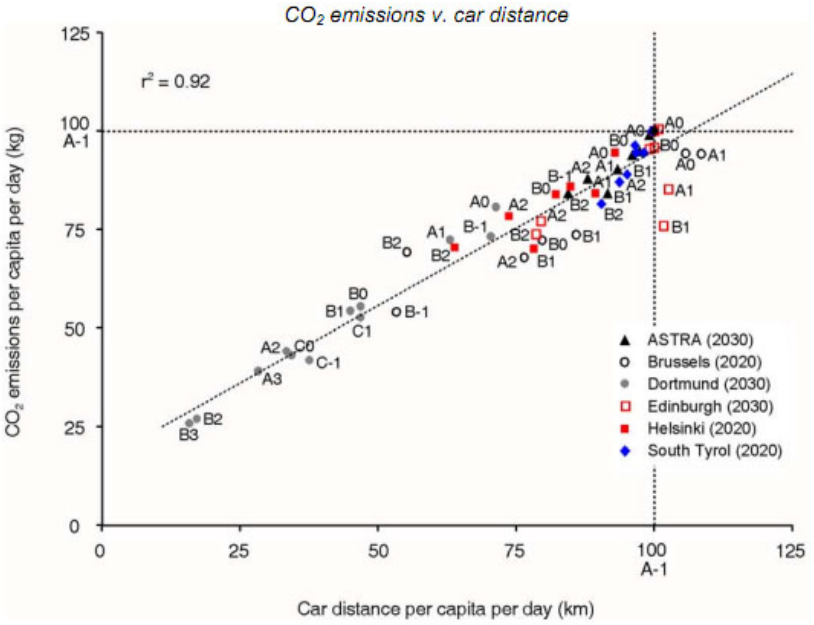

Figure 4-7 Example of meta-analysis of scenario results in STEPs project

4.4 Foresight modelling resources

Since *forecast models* are pushed to their limits of knowledge when exploring scenarios very distant or very different from the present situation for which they were calibrated, *foresight scenario-building models* will also be applied for extreme 2030 and 2050 scenarios and for the European Vision 2050 (TV+, and PASH+). Foresight tools are softer tools, can be programmed easily (e.g. on spread sheet or using dynamic-system's commercial applications), and usually integrate pre-existing forecasts into heuristic formulations; these kind of tools are more suitable to carry on the backcast exercises required to define midterm targets and pathways. For these reasons, a combination of advanced forecast tools applied to key sectors and foresight scenario-building tools will be used[4]. Midterm targets will be validated by forecast models and the pathway will be defined and validated through the foresight tool.

TV+, developed in TRANSVISIONS study (DGMOVE, European Commission, 2009), will be disaggregated at NUTS2 level, and indicators expanded to cover those indicators needed for the TIA analysis and not totally covered by ET2050 forecast models, mostly related to social and environmental aspects.

[4] This was the approach applied in the TRANSVISIONS study carried out by DGMOVE to support the Communication of the Future of Transport for 2050, where TRANSTOOLS (the official forecast model of DGMOVE) was complemented by a foresight tool to investigate extreme and very long-term scenarios (see Part III).

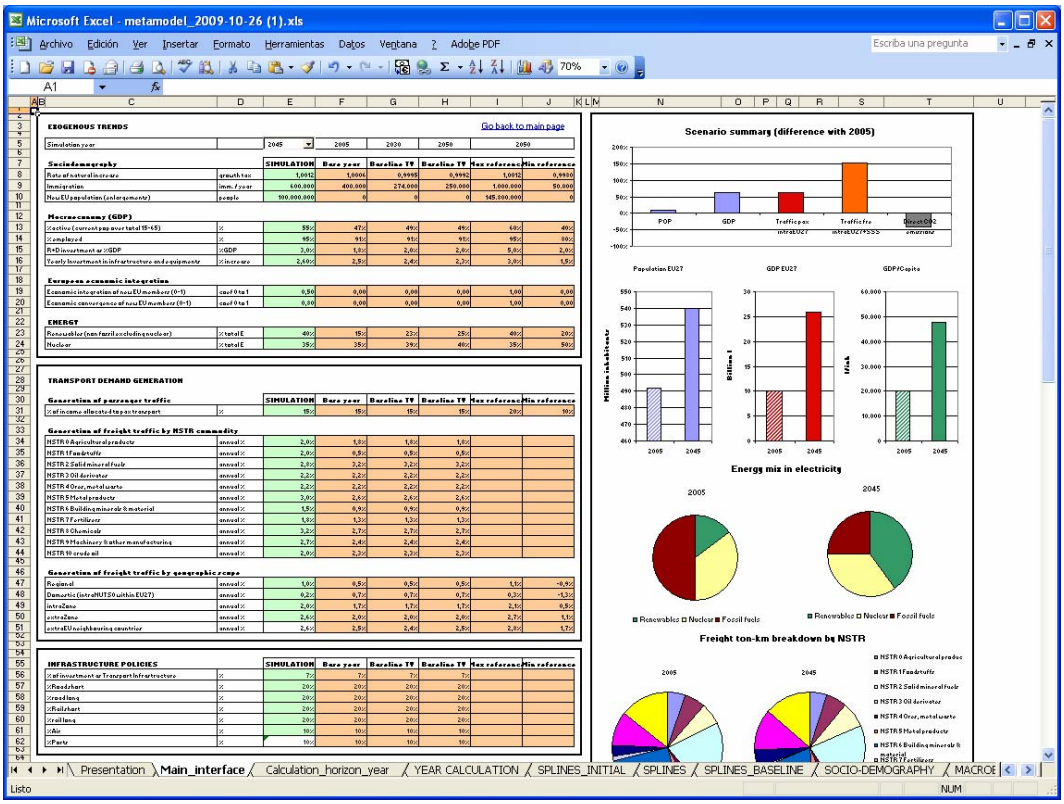

Figure 4-8 TV+ meta-model for foresight at EU level

PASH+, developed in PASHMINA 7th EU Research Programme that will not be modified, since it will be used just in relation to the rest of the world.

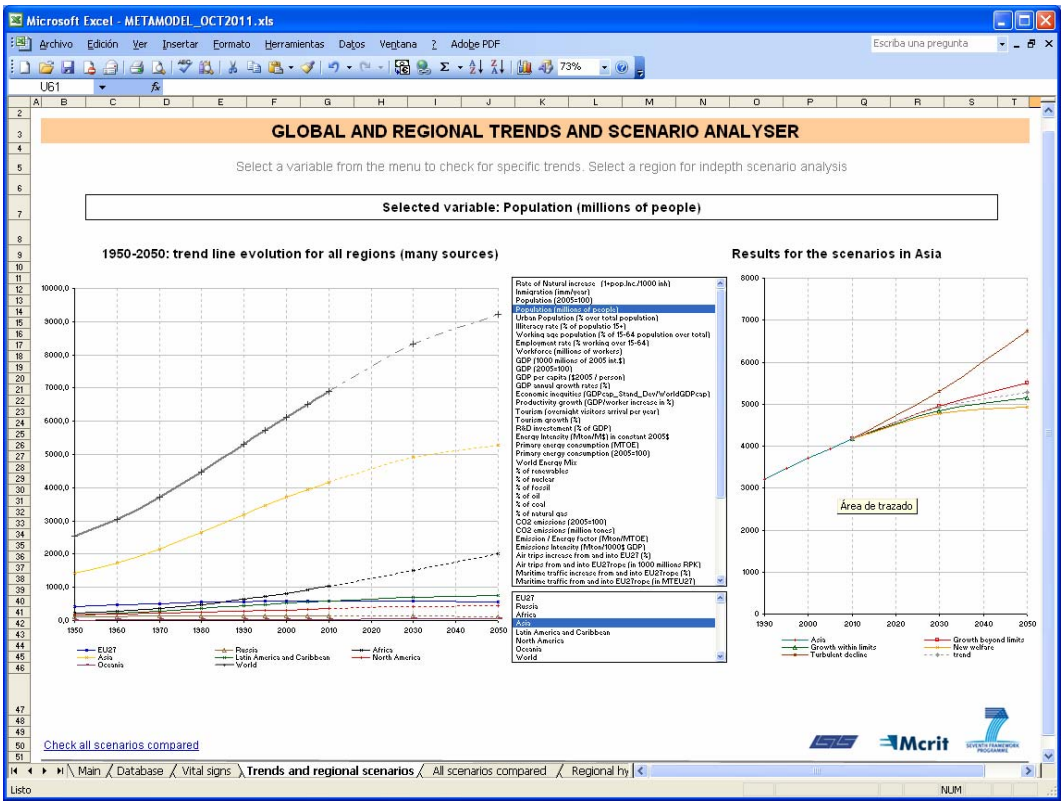

Figure 4-9 PASH+ meta-model for foresight at global level

5. The Territorial State of Europe

A synthesis of the State of the European territory will be produced, with particular regard to spatial patterns and related dynamics for the different trans-national macro-regions, and for Europe as a whole on a sectoral basis. The purpose of this synthesis by territories and sectors is not to produce comprehensive documents that can be published as stand-alone references for each territory or sector, but just to provide with relevant and precise enough information for defining European scenarios. To make the best possible use of the limited resources allocated to these activities, samples of reports have been produced.

5.1 Reports on European Macro-regions

A number of trans-national regions have been defined covering the whole ESPON space and including neighbouring countries. Borders of macro-regions are not considered as strict divisions: macro-regions are not watertight between each other, but rather overlapping and feeding each other. This allows the possibility that some countries or regions belong to several macro-regions (e.g. Poland belongs to both the Eastern Region and the Baltic Region sphere).

The current territorial state and perspectives of these macro-regions will be synthesised, and existing long-term forecasts of relevance, scenario-based studies, territorial visions and regional and national spatial planning documents to be used as a reference for drafting scenarios will be also identified.

An initial research has been performed to identify fundamental references for the analysis of macro-regions, as well as relevant stakeholders and institutions. References are included in this Inception References are included in this Inception Report, and documents are incorporated in the ET2050 virtual library **http://www.et2050.eu/Et2050_Library´**

Criteria to develop Macro-regional reports has been established, and a common Table of Contents has been proposed.

Trans-national macro-region
South West Med Region (Spain, Portugal) with extensions to Maghreb countries (Morocco, Algeria, Tunisia)
Central Med Region (Italy, Slovenia, Malta) with extensions to some Mashrek countries (Libya, Egypt)
North-West Region (Ireland, UK, France, Belgium, Netherlands, Luxembourg)
Central and Alpine Region (Germany. Austria, Switzerland)
Baltic and Nordic Region (Denmark, Norway, Sweden, Finland, Iceland, Lithuania, Latvia, Estonia) with extensions to the Arctic and Barents area (Baltic Russia)
Danubian Region (Slovakia, Czech Republic, Hungary, Croatia, Bulgaria, Romania) with extensions to Moldova, southern Ukraine
South-Eastern Region (Greece, Cyprus, Albania, Kosovo, Macedonia, Serbia, Montenegro, Bosnia and Herzegovina) with extensions to (Turkey, Armenia, Georgia, Syria, Lebanon, Jordan, Israel, Palestinian territories);
Eastern Region (Poland) with extensions to Belarus and northern Ukraine
Outermost regions (Canarias, Madeira, Açores…)

Figure 5-1 Transnational macro-regions studied by ET2050[5]

The reports will be mainly based on literature review and on expert opinions, including transnational documents (e.g. the Territorial Cohesion Report of DG REGIO, the Interreg IVB Operational Programmes, the ESPON Studies, the CEMAT Report, ESPON/INTERACT Studies (Visions, cities etc.); and national documents, such as territorial diagnoses and trend analyses, territorial projections and foresight studies, strategic policy documents with territorial character (e.g. long-term territorial strategies, infrastructure programmes).

A set of guidelines and a common index has been produced seeking homogeneous results in Trans-national macro-region reports from all involved partners. The structure of the macro-regional reports is detailed below:

0. Summary
2 pages, to be included in Interim Report 1

[5] Neighbouring countries to a macro-region may be considered for analysis even when out of bounds, if issues in these countries appear to be of relevance for the macro-region.

1. The Territorial Context
1.1. Geographic description
1.2. Interrelations with EU27 and rest of the World

2. Diagnosis of the Present State of the macro-region region
2.1. Emerging territorial seeds
2.2. Main Territorial dynamics
2.3. Strengths, Weaknesses, Opportunities and Threats (SWOT analysis)
2.4. Regional Sensibility to External Threats

3. Relevant past evolutions and trends by sectors
3.1. Demographic and socio-cultural aspects
3.2. Economy, trade, foreign investments
3.3. Internal territorial specificities/ disparities
3.4. Energy
3.5. Agriculture
3.6. Habitat (urban development)
3.7. Transport and mobility issues: bottlenecks, relevant infrastructure plans
3.8. Land uses patterns
3.9. Environmental management and Climate Change
3.10. Governance and international agreements
3.11. Limits and patterns of growth
3.12. Wildcards: Cross-border conflicts

4. Integrated scenarios
Identification and brief summary of relevant integrated scenarios for all macro-region. Each scenario document as a chapter named 4.x, starting from 4.1

5. Visions
Identification and brief summary of relevant visions for all macro-region. Each vision document as a chapter named 5.x, starting from 5.1

6. Policies
6.1. Integrated policy programs
6.2. Territorial impact of European Policies

7. References
7.1. ESPON Projects
7.2. Other relevant documents
7.3. Websites of reference

8. Experts and institutions
List of relevant experts and institutions in the framework of macro-region

A draft version of the South-West MED Region report is available at the website as an example of ongoing work and reference for producing further macro-regional reports
http://www.et2050.eu/europe_2050/TechNotes/ET2050_DiscNote13_SouthWestMed_v(16112010).pdf

5.2 Sectoral Reports

The reports will analyse future sector-related trends as well as potential territorial impacts of these trends at the European level, or even at the global level when appropriate. For each sector, the following elements will be identified: seeds (or “porteurs d’avenir”), changes which, even if marginal, may trigger transformations in the future; the predominant moments of inertia (or “heavy trends / tendances lourdes”); the limits, or carrying capacity thresholds constraining future

evolutions, particularly those related to the territory, the wild cards, or unexpected, rather unlikely events, which could dramatically impact on future evolutions. Key interdependencies and causalities between socioeconomic and territorial variables will be identified, and checked against the explanatory capacity of the models used in the project.

An initial research has been performed to identify fundamental references for the analysis of Sectors, as well as relevant stakeholders and institutions. References are included in this Inception Report, and documents are incorporated in the ET2050 virtual library **http://www.et2050.eu/Et2050_Library**´

Criteria to develop *Sectoral Reports* has been established, and a common index has been proposed.

Sector
Demographic trends and potential territorial impacts in Europe
Economic trends and potential territorial impacts in Europe
Technologic trends and potential territorial impacts in Europe
Transport trends and potential territorial impacts in Europe
Energy trends and potential territorial impacts in Europe
Land-use trends and potential territorial impacts in Europe
Environmental trends and potential territorial impacts in Europe
Governance trends and potential territorial impacts in Europe

Figure 5-2 Sectors studied by ET2050

Structure of Sectoral reports

A set of guidelines and a common index has been produced seeking homogeneous results in Sectoral reports from all involved partners. The structure of Sectoral reports is detailed below:

0. Summary
2 pages, to be included in Interim Report 1

1. Background
General description of current situation and trends at World level in the sector

2. Current state of thematic sector in Europe
Description of current situation, trends and potential of the sector at European level

3. Relationship between thematic sector under analysis and other sectors
To include relevant sectors only
4.1. Demography
4.2. Society
4.3. Economy
4.4. Habitat
4.5. Land Uses
4.6. Mobility
4.7. Energy
4.8. Environment
4.9. Governance

4. Visions
Identification and brief summary of relevant visions for thematic sector. Each vision as a chapter named 5.x, starting from 5.1

5. Policies
6.1. General provisions
6.2. Specific policy programs

6. References
7.1. ESPON Projects
7.2. Other relevant documents
7.3. Websites of reference

7. Experts and institutions
List of relevant experts and institutions in the framework of the sectoral theme

Draft version of the Energy Report and the Technology Report are available at the project website:

http://www.et2050.eu/europe_2050/TechNotes/ET2050_DiscNote12_Thematic_Engergy_v141111_.pdf

http://www.et2050.eu/europe_2050/TechNotes/ET2050_DiscNote15_TechnologyReport_(v23122011).pdf

5.3 Future of Europe and the World

On-going scenario-based studies and research carried out by European and international institutions world-wide in the field will be reviewed in order to identify and classify the different types of scenarios and visions proposed[6], as well as their territorial implications. The purpose is twofold: first, getting a world-related reference for the definition of territorial scenarios in Europe; second, providing all participants in ET2050 participatory activities with a sufficiently large set of scenarios and visions already developed, as a reference.

Some already reviewed are listed below:

- The Urban Future by UNHABITAT
- Global trends 2030 by FWA
- World Population Prospects by UN
- World Urbanization Prospects by UN
- Mapping the Global Future by NIC
- World agriculture 2030 by FAO
- Road to 2050 by World Bank
- Visions 2050 by World Business Council for Sustainable Development
- The limits to growth. The 30 year update by Club of Rome
- The World in 2050 by HSBC
- The World Order in 2050 by Carnegie Endowment for International Peace
- The World in 2050 by PriceWaterhouseCoopers (PWC)

[6] This work has been largely achieved in the 7th EU Framework Programme PASHMINA (2010-2012), which produced a web-site repository of almost all relevant sources for future-studies World-wide

On the other hand, a literature review of the visions of most influential social, economic and political contemporary thinkers will be carried out, drawing on previous similar exercises already available, in order to better understand the present state of Europe in the world context, and the nature of the most influential visions towards 2030 and 2050. The aim is to highlight comprehensive explanations of observed events while deconstructing conventional visions[7]. Commonality of views and contradictions between the most influential thinkers[8], will be mapped and classified in groups of dominant lines of thought.

From this ongoing activity, the main "free thinkers" or "visionaries" related to the scenarios presented in the Project Specifications are listed next:

This is presented as sample of an ongoing activity.

The Europe of Flows

- Ascher, François, Metapolis. Les Nouveaux principes de l'Urbanisme (2004)
- Castells, Manuel, The Space of Flows
- Bauman, Zygmunt, 44 letters from the Liquid Modern World (2011)
- Dupuy, Gabriel, Systèmes, réseaux et territorires. Réseautique territorial (1985)
- García Vázquez, Carlos, Antípolis, (2011)
- Garreau, Joel, Edge Cities (1993)
- Mitchel, William, Me+ & e-topia(2003)
- Kasarda, John, Aerotropolis. The Way We'll Life Next (2011)
- Kunstler, James Howard, The geography of nowhere (1993)
- Rowe, Peter, Making a Middle Landscape (1991)
- Hanley, Richard, Moving people, goods and information in the 21th century. The cutting-edge of infrastructures of networked cities (2004)
- Etc.

The Europe of the Creative Cities

- Benevolo, Leonardo, The European City. The Making of Europe (1993)
- Cerdà, Ildefons, Theory of Urbanisation (1856)
- Florida, Richard, The Creative Cities (2009)
- Jacobs, Jane, Dead and Life in the American Cities
- Glaser, Edward, Triumph of the City, (2011)
- Hall, P., Megacities, World Cities and Global Cities, in Megacities (2010)
- Nijkamp, Peter, Megacities: Lands of Hope and Glory, in Megacities (2010)

[7] From the vision expressed in "*The European Dream*" by Jeremy Rifkin, to the "*The future of Europe: Reform or Decline*" by Alberto Alesina, to name just two distant visions, contemporary visions of Europe will be reviewed as starting point and source of inspiration for the future development of the European Territorial Vision 2050.

[8] Z. Bauman, U. Beck, A. Touraine, A. Giddens, M. Castells, K. Ohmae, R. Florida, or S. Latouche, among many others.

- Rifkin, Jeremy, The Empathic Civilisation, (2010)
- Savitch, H. V., Post-Industrial Cities, (1991)
- Sassen, Saskia, Urban Economics and Fading Distances, in Megacities (2010)
- Senett, Richard, Megacities and the Welfare State, in Megacities (2010)
- Solà-Morales, Ignasi, Metrópolis, (2005)
- White, William H., City. Rediscovering the Center (1988)
- Etc.

The Europe of the Balanced Regions

- Ohmae, Kenichi, The End of the Nation State and the Rise of Regional Economies, (1996)
- Judt, Tony, Ill Fares de Land, (2009)
- Maalouf, Amin, Le déréglement du monde, (2009)
- Einsele, Martin, The Upper Rhine, an Alternative Metropolis, (1988)
- Geddes, Patrick, Regional Planning,
- Forman, Richard T.T., Land Mosaics. The Ecology of landscapes and regions, (1995)
- Klein, Naomi, The Shock Doctrine. The Rise of Disaster Capitalism (2007)
- Munford, Lewis, The Regional Framework of Civilisation. Regions to live in, (1968) Davis, Mike, Dead Cities, (2002)
- Rubin, Jeff, Why Your World is About to Get a Whole Lot Smaller, (2009)
- Sachs, Jeffrey, Common Wealth. Economics for a Crowded Planet (2008)
- Smith, Neil, ¿Cities after Neo-Liberalism? (2009)
- Stiglitz, Joseph, Making Globalisation Work, (2007)
- Zizek, Slavoj, First as Tragedy, then as Farce, (2009)
- Etc.

The Europe of Self-Sufficient Towns

- Alexander, Christopher, The Nature of Order, (2002)
- Calthorpe, Peter, The Next American Metropolis. Ecology, Community and the American Dream, (1993)
- Illych, Ivan, The Art of Habitat (1984)
- Lorentz, Konrad, The eight mortal sins of the urbanised society, (2011)
- Latouche, Serge, Petit traité de la décroissance sereine (2009)
- Naess, Arne, The Deep Ecological Movement, (1995)
- Salingaros, Nikos A., Principles of Urban Structure, (2005)
- Sansot, Pierre, Du bon usage de la lenteur, (2000)
- Sachs, Wolfgang, Global Ecology and the Shadow of Development (1995)
- Sessions, George, Ecocentrism, Wilderness, and Global Ecosystem Protection (1995)

- Shumacher, E.F., Small I Beautiful, (1974)
- Platt. R. H., The Ecological City, (1994)
- Etc.

6. Scenarios

6.1 Approach

The first objective is developing Baseline Scenarios for 2030 and 2050. The research work will involve the definition of baseline assumptions and validation through the participatory process, the elaboration of the scenarios, the assessment of the scientific consistency and likelihood of the scenarios based on the modelling tools, and assessment of the consistency of the scenarios with territorial policy aims applying TIA.

The second objective is defining the space of possible futures for the European territory in a 2050 perspective, to support the process of defining the Vision. To this end, four outline Exploratory or Extreme scenarios will be provided, “for illustration and inspiration”. They do not exclude other possibilities of territorial organisation. These extreme scenarios are mostly considered as prospective (possible future ahead, even if not desirable).

The process of building baseline and explorative scenarios will be iterative, and will support building the territorial Vision for 2050. The building process of the scenarios and the Territorial VISION will be cyclical and dynamic (no linear neither sequential) allowing the ESPON Monitoring Committee to take active part in the development and testing of the VISION and scenarios.

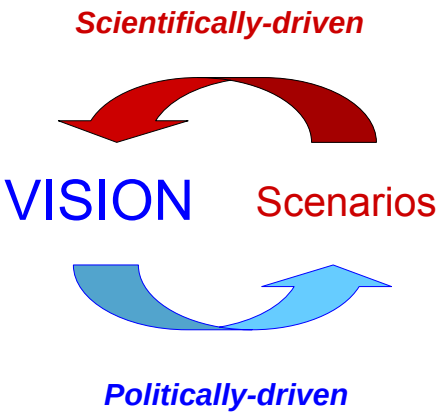

Figure 6-1 Cyclical process to construct the scenarios and the Vision

6.2 Elaboration of the Baseline Scenario

The general assumptions for the elaboration of the ET2050 will be as follows:

- Synthesis document related to assumptions made in available baseline scenarios (ESPON Project 3.2.; SPAN-3 (SS-LR), DEMIFER, ReRisk, EDORA and FOCI as well as non-ESPON scenarios), as well as in other relevant studies (e.g. Regions 2020, by DGREGIO) The comparison will concentrate on the main hypotheses underlying the scenarios, on the number and nature of drivers considered and on the transferability of outcomes
- Elaboration of qualitative assumptions for Baseline 2030 and Baseline 2050, and whenever feasible elaboration of quantitative assumptions as working hypothesis to be validated and refined by the application of the modelling tools.
- Validation of the consistency and realism of assumptions (on trends and policies alike) through quantitative indicators by the application of the forecast models, and presentation of key tendencies for five- or ten-year periods, for the whole ESPON space, and EU27, with reference to the neighbouring countries and the rest of the world. Assumptions will refer to both dominant tendencies and limits or thresholds, considered as invariants. Modification of the qualitative assumptions, if needed.

- Detailed analysis, at the level of each of the trans-national study areas, of assumptions adopted under consideration of the dynamics of particular sectors or territories. Preparation of material for the presentation and discussion of assumptions on policy-oriented and scientific workshop foreseen in relation to baseline scenarios.

More specifically, the scenarios will be defined in three periods:

- *For 2012-2020*, the baseline scenarios (and also the explorative scenarios up to 2020) will incorporate the assumptions of the Regions2020 report (2008), the Phase 2 study on Regions2020[9], and the EU2020 scenarios. According to EU2020, the *Strong recovery* scenario expects a full return to earlier economic growth path and a capacity to go beyond; the *Sluggish recovery* accepts a permanent loss in wealth and stagnation on a lower growth path; and the *Lost decade* scenario assumes a permanent loss in wealth and an eroded potential for future growth. On the other hand, the Regions2020 report analyses the impact of globalisation, demographic change, climate change and the energy challenge in European Regions by 2020. South and South Eastern regions appear to be most vulnerable for globalisation and demographic change, with significant variation across European regions. For climate change a relatively strong core-periphery pattern is detected, while energy dependence clearly follows national patterns, without showing a clear East-West or North-South divide.

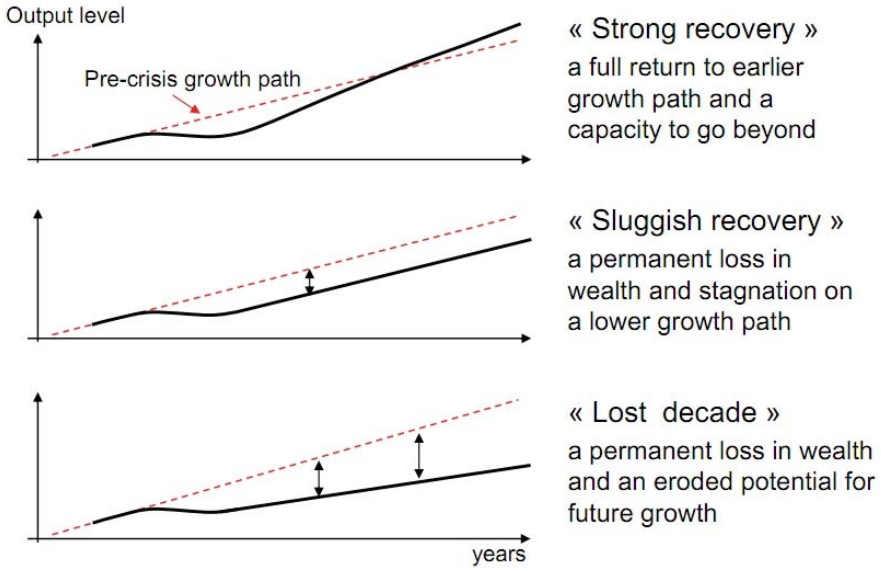

Figure 6-2 EU2020 Scenarios (JM Barroso, Informal European Council, Feb'10)

- *For 2020-2030*, the baseline scenario will be elaborated as narrative and story-line based on the assumptions validated and refined by the application of forecast models, that will also assess the sensitivity of the scenario to marginal changes in the initial assumptions. Results will be used to refine the scenario if needed once the territorial impact assessment is carried out, and added to the scenario in a final section or appendix.
- *For 2030-2050*, the major methodological difference will lie in the use of TVIS+ and PASH+ foresight scenario-building tools, complementary to the forecast modelling tools, and in the greater consideration to be given to expert qualitative opinions. TV+ and PASH+ will be

[9] Öir et al (2011), *Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis*, EC DG Regio.

calibrated with the Baseline 2030 results provided by the forecast model, and will contribute both to the definition of the baseline as well as the extreme scenarios for 2050.

6.3 Definition of Extreme Scenarios

The discussion about the extreme scenarios is an ongoing activity, still open with respect to the definition of the exploratory scenarios. The present Inception Report presents the two different approaches for scenarios that are being tested as a departure point, which have resulted on two sets of four scenarios each, (a) Scenarios Flows, Cities, Regions, Towns and (b) Scenarios based on the intersection of policies and scales. The discussion about this proposals and approaches is still ongoing. A more specific definition of scenarios will be provided in the First Interim Report.

Some key issues being considered for extreme scenarios are the following:

- The scenarios considered in ET2050 differ from “conventional” prospective scenarios in the sense that they are instruments, preliminary steps for the elaboration of a territorial Vision. This is why there are “territorial” in nature, likely to produce territorial elements to be used for the Vision.
- Territorial scenarios are not static products. They are related to dynamic processes, in which a number of drivers and specific characteristics of the global and general context are playing a role. The respective hypotheses of each scenario have to be well elaborated in advance. The sketches of the three extreme scenarios contained in the terms of reference are partly unclear and anyway insufficient to understand properly what is “behind” (values, objectives, drivers, context factors etc.). They require a more elaborated interpretation.
- The drivers of long-term territorial scenarios (40 years) are both factors of change in society and economy and specific public policies. This creates tensions between the need to consider different types of context factors (to take account of the fact that the long-term future is unknown) and the need to have identical framework conditions when simulating the impacts of policies in the respective scenarios, to enable the comparison of policy impacts. The solution of such tensions requires a specific approach.
- The diversity of territorial situations in Europe requires differentiated policies to achieve successfully basic common territorial development objectives. Monolithic policies are not appropriate in the case the European territory and the scenarios have to take this also into account, up to a certain extent.
- The territorial vision requires structuring elements at different scales. The scenarios have to take this requirement into account and this converges anyway with the existence of a system of multilevel governance.

The elaboration of the scenarios will combine the following approaches and steps:

- Bottom-up approach: elaboration of scenarios by the ET2050 partners responsible for each of the macro-regions concerned, according to a common format;
- Top-down approach: elaboration of regionalised demographic, economic, transport, land-use and spatial development simulations using forecast and foresight modelling tools;
- Integration of the bottom-up and top-down approaches (including necessary adjustments), leading to narratives and storylines with sufficient geographic differentiation and quantified references; this phase may include some iterative loops;
- Simulation of land use changes, highlighting the main differences between the three scenarios;

- Development of cartographic and multimedia visualisation to support the scenarios
- Consultation of experts on the outcomes of the scenarios; synthesis of comments received; and adjustment of the scenarios, in the Scientific-oriented workshop
- Preparation of the scientific-oriented and policy-workshop with the MC, aimed at examining in detail the hypotheses, assumptions and narratives of each of the possible scenarios proposed; to facilitate the consensus building process, questionnaires may be addressed to MC members before, during and after the workshop, following an structured format (e.g. a DELPHI process).

At this stage of the project, the two previously mentioned different approaches for scenarios being tested are the following:

- 1st approach: from scenarios described in the Project Specifications to new scenarios produced in an iterative process of debate, refinement and reformulation, seeking in each step to increase internal consistency of each scenario, and to increase the balance in the levels of likelihood and desirability off all scenarios.
- 2nd approach: building new scenarios to cover balanced territorial and sectoral issues.

Scenarios based on Project Specification

First sketches of three original scenarios presented in the ET2050 Project Specification were studied and debated in the first TPG meeting in Barcelona. Consistency, likelihood and desirability were tested with specific questionnaires. Following to this process, scenarios were adjusted and a fourth scenario was introduced to cover a deeper locally based concept of Europe. All four scenarios have been presented and discussed in the ESPON Krakow Seminar in November 2011. Again questionnaires were distributed among participants, and analysis of results revealed a positive increase in consistency, likelihood and desirability of scenarios.

Europe of Flows: This scenario provides an image of Europe in which the territory is much more dynamic, land-uses and territorial structures become far more flexible and adaptable to technological, social and economic requirements. From the Global scale down to the local, even personal scale, networks of information and communication connect people and activities permanently. Virtual Communities become as important as territorially-based communities. More integrated trans-national zones emerge by the spontaneous networking of cities in the respective cross-border areas, and transport and energy corridors linking major European centres of production and consumption with Neighbouring Countries and the rest of the World. Political focus lies on enhancing connections and long distance networks, linking Neighbouring countries, favouring more efficient technologies and management strategies. The territory becomes smarter. Public regulations are relaxed in terms of fixing land-use constrains, but more effective internalizing social or environmental costs.

Europe of the Creative Cities: This scenario provides an image of the European territory in which economic and population growth, as well as most private and public investments, take place within existing cities, those that give structure the European territory: National capitals and major Regional capitals have a role as driving forces. Europe of the Cities is characterized by economically strong and compact cities, large centres becoming centres of excellence, creativity and entrepreneurship. The increasing concentration of added-value activities in cities does not imply a process of rural decline, but its increasing functional dependency to capitals. Political focus lies on issues such as urban regeneration and intensification of urban space, promotion of transport networks at metropolitan and regional level, and strong preservation of open green

spaces, for both recreational and ecological reasons. Urban policies are often managed as a public-private partnerships.

Europe of the Balanced Regions. This scenario provides an image of the European territory in which economic and population growth as well as public investments are mainly stimulated to take place on the basis of specific regional strengths. Europe of the Regions is characterized by urban and rural territories that form a mosaic of different regions and types of territories with mature identities nourished by local and regional governments that are able to cooperate at interregional level in areas of common interest. Straightening the social and economic balance of Europe at the regional level, promoting open endogenous development, and empowering public institutions at regional scale leads to a more cost-effective provision of public services. There is an increasing importance on both European and regional public institutions. Policies lie at reducing the existing unbalances at regional and also at local level, focusing on places with social unbalances, neighbourhoods in large cities or small rural towns. Policies aim organising the settlement systems in a more polycentric approach at regional scale, and there is a deliberate policy of strengthening trans-national territorial integration at a functional scales

Survey results (Barcelona Oct'11 and Krakow Nov'11)

A Questionnaire was distributed to participants in Krakow focused on consistency, likelihood and desirability of scenarios, and results were contrasted to a similar survey distributed among TPG partners in October focused on original PS scenarios. Participants were required to rate the degree of consistency, likelihood and desirability of each presented scenario from 0 to 10. Results showed better overall consistency, likelihood and desirability of scenarios after the process of refinement. Next graphics present the results of the internal survey compared with the one carried out in Krakow for the three scenarios:

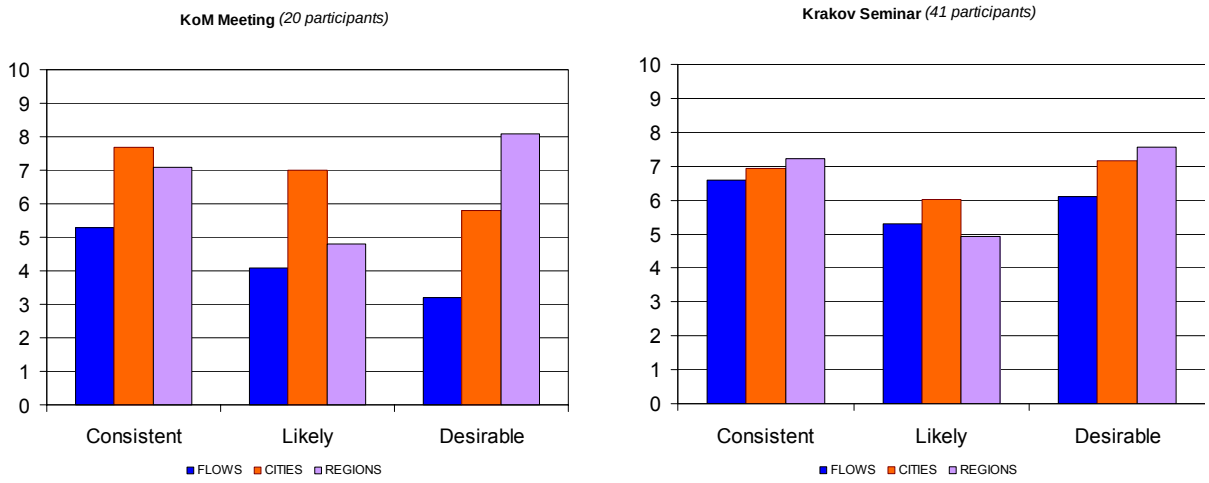

Figure 6-3 Through refinement, scenarios became more equilibrated, and grew on consistency, likelihood and desirability

As a consequence of the internal survey, the three scenarios were refined and a fourth scenario with a more clear ecologist dimension was added:

Europe of Self-Sufficient Towns This scenario provides an image of the European territory in the context of rapidly growing energy price (oil depletion; growing world demand) and of increasing concerns related to climate change. There is a need to accelerate the decarbonisation the economy, and to increase the need to exploit endogenous resources to move towards a new energy paradigm, even if this require growth zero economic development strategies. Local production and local markets gain much importance. Migration of skilled people from large cities to rural areas will accelerate localism in a process which is not much lead by public institutions or

developed according to planning but results from the changes of values and behaviour of new generations. Large cities become further decentralized into more productive, slow neighbourhoods. Local identities are somehow recreated. Political focus lies on issues such as an strong place-based and bottom-up community empowering approach, encouraging self-organisation, and self-sufficiency. New governance processes and public participation processes in small and medium-size cities.

Newly added *Towns* scenario is relatively less consistent, likely and desirable than others according to participants. Further work is required to have an equilibrate set of four scenarios.

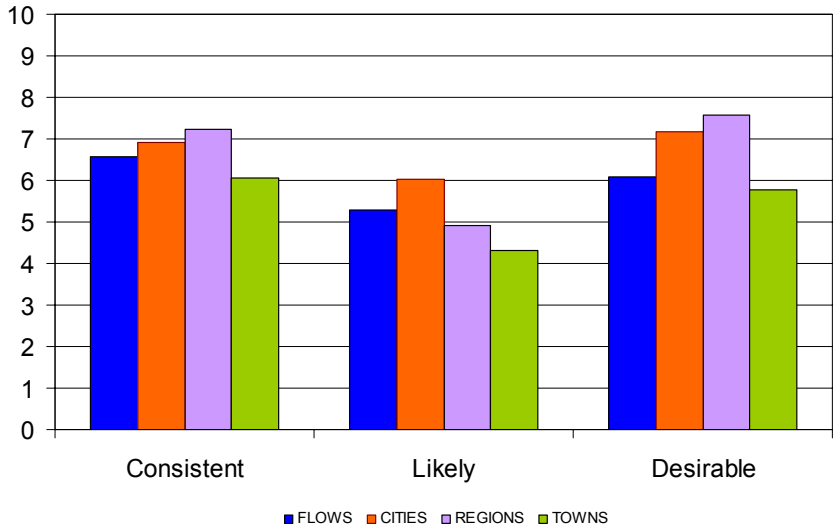

Figure 6-4 Results of Consultation in Krakow ESPON Seminar: overall evaluation

Cities scenario is the scenario with most enthusiasts, with 40% of all participants. On the other hand, *Flows* and *Towns* are most controversial scenarios. Enthusiasts are defined as participants rating desirability by 8 or more over total of 10 points; Strong Opponents are those rating desirability by 3 or less points.

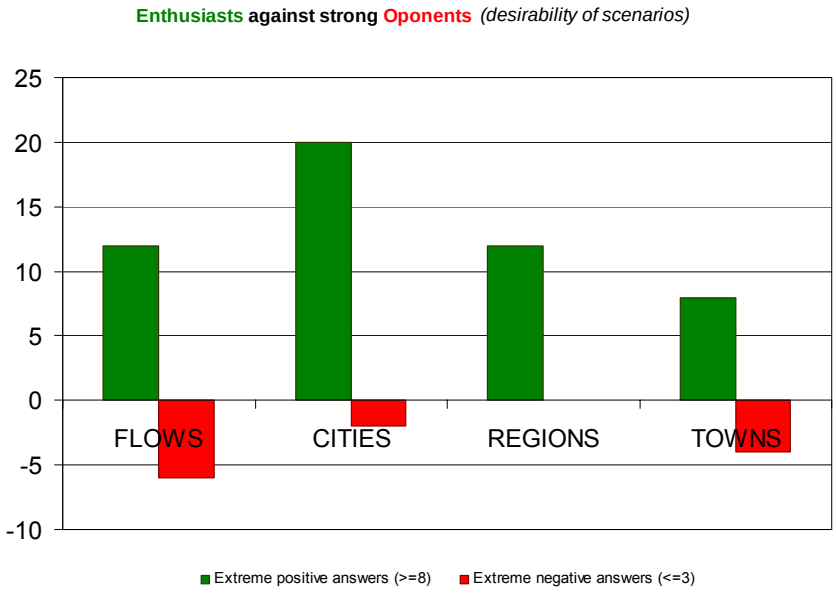

Figure 6-5 Results of Consultation in Krakow ESPON Seminar: enthusiasts against strong opponents for each scenario

Cities scenario is also the most likely scenario, with almost 25% of participants being *Believers* (defined as participants rating likelihood by 8 or more over total of 10 points). The *Towns* scenario is the one that concentrates a higher number of *Sceptics* (defined as participants rating likelyhood by 3 or less over total of 10 points).

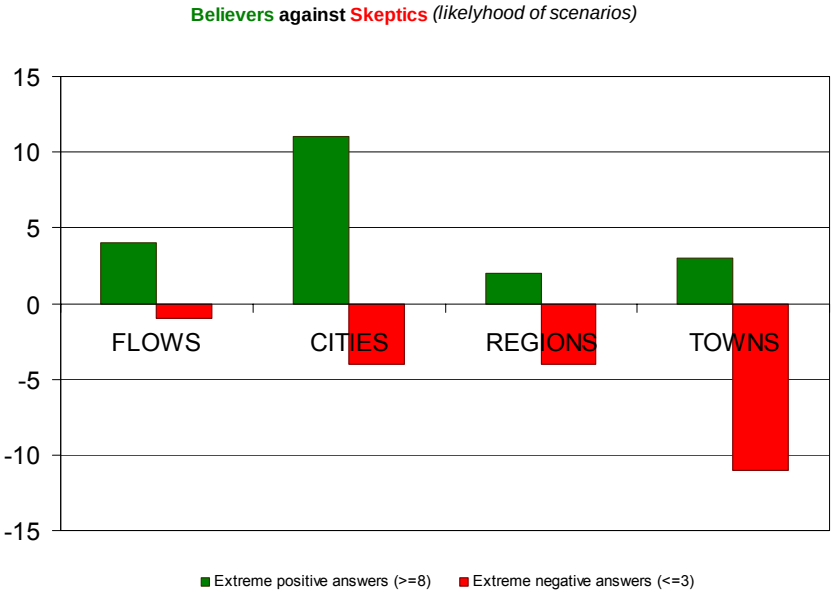

Figure 6-6 Results of Consultation in Krakow ESPON Seminar: believers against sceptics for each scenario

Building new scenarios to cover territorial and sectoral issues

Scenarios can result from the crossing of two components:

- the diversity of territorial scales (from the European down to the subregional/local level) corresponding to various types of functional territorial structuration as well as to the principle of multilevel governance;
- the main orientations/principles of the scenarios provided by the terms of reference, but in a more elaborated and sophisticated interpretation.

Following territorial scales can be envisaged:

- the European scale (ESPON Space) with regard to European competitiveness issues, relations with other continents, knowledge economy etc.
- the macro-regional scale, with regard to progressing territorial integration within specific parts of the ESPON space;
- the regional/cross-border scale with regard to regional potentials;
- the subregional/local scale with regard to specific issues related to the action of local/regional authorities

Following main orientation principles for the scenarios can be envisaged:

- promotion of competitive metropolitan areas in a context of continuing globalisation and growing competition between continents;

- promotion of territorial integration through strengthened networking at the scale of transnational macro-territorial entities (clusters of large and medium-sized cities to be properly delineated) and of a number of strategic corridors connecting them;
- promotion of the endogenous potential and territorial capital of European regions in a context of changing energy paradigm and of strong concerns about climate change;
- promotion of the objective of equality of living and working conditions (territorial and social cohesion, access to services of general interest, concerns about less favoured areas and urban deprived neighbourhoods)

The scenarios result from the combination of the two components is as follows

Scale / Scenario orientation	European	Transnational/ macro-regional	Regional	Subregional/ local
Promotion of competitive metropolitan areas	1			
Promotion of territorial integration		2		
Promotion of endogenous regional potentials			3	
Promotion of territorial and social cohesion				4

Figure 6-7 Scenario territory-policy matrix

This generates four main scenarios (diagonal of the template) and a number of possible variations (other squares).

The four main scenarios can be sketched as follows:

Scenario 1 provides an image of the European territory resulting from the stimulation and concentration of population growth and public investments in major metropolitan areas, structuring the European territory in a context of further globalisation and of growing competition between continents. The privileged scale is the European one because European territorial leadership emerges from major metropolitan areas (those clustered in the European pentagon + a number of more distant metropolitan areas along major corridors). This scenario has similarities with the "competitiveness scenario" of ESPON project 3.2. It can however be accentuated by the impacts of the economic crisis and of sovereign debts which weaken primarily the European peripheries, including their metropolitan areas.

Scenario 2 provides an image of the European territory resulting from a deliberate policy of strengthening transnational territorial integration at a meaningful scale which is that of specific transnational macro-regional entities characterised by a clustering of large and medium-sized cities (like in the southern/central part of the Baltic Sea region, in the northern part of the Latin Arc, in the East-European triangle Warsaw-Dresden-Budapest) etc. This scenario corresponds to

the ESDP objective of promoting several transnational economic integration zones through stronger networking of cities in the respective areas identified. It may also promote various corridors necessary to the progress of territorial integration in Europe, like for instance a north-south corridor throughout Eastern Europe linking the Baltic Sea region to the Black Sea/Mediterranean area. This scenario is a more structured interpretation of the "Europe of flows scenario" inadequately formulated in the terms of reference.

Scenario 3 provides an image of the European territory resulting from the systematic mobilisation of endogenous potentials and territorial capital of regions, especially there where they are sufficiently substantial and worth being promoted by public policies. Territorial potentials are very diverse in nature (economic clusters, residential and tourist economy, production of renewable energy etc.). A specific dimension of the scenario is the context of rapidly growing energy price (oil depletion; growing world demand) and of increasing concerns related to climate change, with the need to decarbonise the economy. It increases the need to exploit more systematically endogenous resources to move towards a new energy paradigm. This results in policies aiming at promoting renewable energy sources and at organising the settlement systems in a more polycentric approach (less congestion) at regional scale (ESDP objective of de-concentrated concentration).

Scenario 4 provides an image of the European territory resulting from public policies concentrated on the promotion of territorial and social cohesion at intra-regional/local scale, especially in disfavoured areas threatened by depopulation and abandonment and in deprived urban neighbourhoods. The first category of areas is characteristic of the various European peripheries but is also common in a number of more central regions. The second category is more characteristic of large cities. Public policies aim at maintaining a sufficient level of services of general interest and of activities in order to counteract decline and/or social polarisation.

Both these two approaches to build scenarios are considered as useful starting points, and none will be selected instead of the other, but efforts will be made to enrich and integrate both. As mentioned above, the definition of explorative scenarios is ongoing and scenarios will be further developed in the Interim Report to come.

7. Territorial Vision for 2050

The Territorial Vision is considered as a "normative" roll-backward scenario, starting with a desirable image of the European territory by 2050 and investigating the territorial trajectories likely to achieve it

The VISION is expected to have a strategic character that allows giving direction to the policy debate on territorial development. ET2050 aims at supporting policymakers in formulating this long-term integrated and coherent vision on the development of the European territory.

The Vision will consist in three elements:

- A set of commonly agreed general territorial objectives and principles, with quantified goals.
- A series of (non-binding) policy and governance recommendations likely to make the realisation of the VISION possible
- A series of schematic maps of the European territory displaying strategic, structuring elements

In contrast with the roll-forward exploratory scenarios, having a prospective character, the starting point of a Territorial Vision is not related to drivers of territorial development, but to territorial development objectives and policy options in their most concrete form, including territorial differentiation and policy orientations addressing specific future territorial development issues.

7.1 The current political Vision of territorial issues in Europe

The way of seeing territorial issues today, as derived from policy documents like the Territorial Agenda, results from a long-standing process initiated in the late eighties. Considerable progress has been made in the policy debate on the territorial dimension of EU policy. This debate is now at something of a crossroads, according to the report *Background report on the T.A. 2020* by the Polish Presidency[10], as critical choices, going well beyond the now published initial declaration of principles, need to be made to help square EU policy-making with the territorial cohesion objective.

The series of landmark initiatives and publications which have nurtured the policy process over the past two decades can be summarised as follows, according to the same source:

- **Europe 2000** and **Europe 2000+** communications were published by the Commission in early nineties; '**VASAB 2010** (Vision and strategies around the Baltic Sea 2010)' was adopted at the Tallinn Ministerial Conference in 1994. These documents paved the way for territorial policies at European level.
- **ESDP**. In 1999, the European Spatial Development Perspective (ESDP) was adopted by the EU member states. Even though the European Commission assisted in the ESDP elaboration, the process was clearly intergovernmental in nature, since at the time the European Union was denied any formal competence in the area of territorial development policy.
- **INTERREG**. The first generation of INTERREG programmes was initiated during the programming period 1989-1993 of the EU structural funds. These programmes were exclusively dedicated to cross-border cooperation. A strand dedicated to transnational cooperation was introduced in the next generation of INTERREG programmes. For the current 2007-2013 programming period, INTERREG has become a component of the so-called "mainstream" of the EU Cohesion Policy; this means that INTERREG was renamed

[10] K.Böhme, P.Doucet, T.Komorinicki, J.Zaucha, D.Swiatek (2011), *How to strengthen the territorial dimension of 'Europe 2020' and the EU Cohesion Policy.* Ministry of Regional Development of Poland.

"European territorial cooperation" and became the third objective of this policy, on top of the first two objectives ("Convergence" and "Competitiveness and Employment").

- **White Paper on European Governance**. In 2001, the European Commission published its White Paper on European Governance, after an in-depth consultation process in various working groups, in which the territorial dimension of EU decision making was considered as a major issue.
- **White Paper on Multilevel Governance**. In 2009 the CoR came up with the White Paper that reflects the determination to "Build Europe in partnership" and sets two main strategic objectives: encouraging participation in the European process and reinforcing the efficiency of Community action. Multilevel governance has been defined as a process of translating European or national objectives into local or regional action, and simultaneously integrating the objectives of local and regional authorities within the strategies of the European Union. Multilevel governance should reinforce and shape the responsibilities of local and regional authorities at the national level and encourage their participation in the coordination of European policy.
- **ESPON Program**. In order to strengthen the ESDP application process through the provision of an appropriate knowledge base and a common platform for research, the ESPON 2006 programme was launched in 2002 by the EU Commission and the EU Member States.
- **Lisbon Treaty.** This treaty introduced territorial cohesion into the TEU and TFEU as a fundamental policy aim of the EU, alongside social and economic cohesion, and as a field of shared competence between the EU and its member states.
- **Green Paper on Territorial Cohesion**. In 2007 the Commission launched a public debate on territorial cohesion by issuing a green paper. The debate showed that territorial cohesion is largely associated with an integrated approach to development, entailing the better coordination of public policies, taking better account of territorial impacts, improved multilevel governance and partnership, the promotion of European territorial cooperation as a clear EU asset, and a reinforced evidence base to improve territorial knowledge.
- **Barca Report**. The European Commission asked Fabrizio Barca to prepare an independent report analysing the recent practice and achievements of EU Cohesion Policy while proposing various policy steps to redirect it in view of the 2014-2020 period. This report was published in April 2009. Among various proposals, Barca made a strong case for basing future EU regional policy programmes and operations on a "place-based approach", a notion previously explored by the Organisation for Economic Cooperation and Development (OECD).
- **5th Cohesion Report**. Paving the way for a reformed Cohesion Policy in the period 2014-20, the 5th Cohesion Report was adopted in November 2010. It addresses a wide array of relevant issues, such as the concentration of resources on a few priorities closely linked to 'Europe 2020', the definition of clear performance indicators and targets, the conditionality and incentives associated with the use of EU structural funding, etc. The 5th Cohesion Report also discusses territorial cohesion by analysing the territorial dimension of access to services and a wide range of EU policies, paying more attention to climate change and the environment, and considering how the territorial impact of policies can be measured.
- **Territorial Agenda**. The intergovernmental process which led to the adoption of the ESDP has been continued. Relevant milestones here include the adoption at ministerial meetings of the Territorial Agenda – the TA 2007 (Leipzig, May 2007) and its Action Plan (Ponta Delgada, November 2007) and of the aforementioned TA 2020 (Gödöllı, May 2011).

- **Macroregional Strategies**. In October 2009 the first socio-economic strategy for a functional EU macro-region was adopted (Baltic Sea region), prepared by the European Commission at the request of the European Council. Likewise, a macroregional strategy of the same kind was adopted in April 2011 to boost the development of the Danube Region. The macroregional approach has its origin in the needs of concrete territory, its endogenous potentials and specific, opportunities.
- "***Territory matters to make Europe 2020 a success"***[11] At their meeting in Seville on 10th May 2010, the Directors General of the ministerial departments responsible for territorial development policy in the EU adopted a resolution to emphasise the significant overlap between the priorities of the Territorial Agenda and issues of relevance for territorial development addressed in the 'Europe 2020' strategy while highlighting the need to bring the two documents closer to each other.

7.2 Development of the ET2050 Vision

The approach for this normative or desired scenario (or Vision), will consist of the following steps:

- Translation of the outcomes of the Extreme Scenario exercise into orientations for a more desirable territorial development presenting various possible territorial options as well as possible territorial categories to be selected for structuring the Vision. Already existing territorial Visions for specific European areas will be considered as to their relevance for both territorial development options and territorial categories structuring such visions. The results obtained in the TIA exercise for the four exploratory and for the Baseline scenario will be considered as a key reference to formulate the Vision.
- Analysis of the political preferability of each of the Extreme Scenarios designed
- Structured discussions concerning the goals and the political criteria to be applied to measure their accomplishment, by using the TIA methodology.
- Consensus-building will be facilitated by the use of online interaction resouces; this process could also involve other EU institutions (European Parliament, other DGs of the Commission, Committee of the Regions, etc).

The elaboration of the Territorial Vision will be carried out stepwise, collectively with the MC and CU in the context of an iterative process:

- Grouping of the territorial elements to be included in the Territorial Vision into three layers: (1) cities and settlement systems; (2) networks (infrastructure and flows); (3) open spaces (devoted to different economic, social and ecological functions).
- Elaboration of proposals (with possible alternatives) for each layer, covering the ESPON space, including macro-regional and territorial specificities; submission of these proposals to the MC;
- Integration of the revised options of the three layers.
- Elaboration of a synthesis document gathering the options and objectives validated by the MC, in view of the elaboration of the Territorial Vision and indicating the relevant territorial categories selected; the results from the Territorial Vision will be reviewed in the thematic and policy-workshop planned for month 30 and month 33 since they will be focused on midterm targets and pathways from 2010-2030 towards the achievement of the 2050 Vision

The process of defining the Territorial Vision will be discussed in the next Policy Workshop with ESPON MC and DG REGIO.

[11] Cf. *http://www.mzopu.hr/doc/Prostorno/Tekst_izjave_EU2010.pdf*

8. Midterm Targets and Pathways to 2030

The aim of Task 2.7 is extracting sensible midterm targets (2030) that need to be met in order to guarantee that the European territory sufficiently develops into the direction of the Territorial Vision for 2050. On the background of the baseline scenarios and the territorial vision for 2050, the mid-term targets will point out the added value, which has to be achieved through appropriate policies. The midterm targets will be tangible and quantified. The targets preferably follow a territorial logic meaning that they are expected to address different types of territories. Furthermore territorially differentiated trajectories (from now towards 2030) to be followed by different types of regions will be investigated in order to reach the midterm targets.

The mid-term targets to be considered have to be in line with the general objectives contained in official EU documents (balanced economic growth, sustainable development, economic, social and territorial cohesion etc.)[12]. Indicatively, the mid-term targets for territorial development could be related to a number of thresholds concerning the population (density changes, shares of immigrants etc.); the economy (employment rate, regional disparities, unemployment); the accessibility and connectivity (Europe-wide and intra-regional); the energy sector (ratio of renewable energy production in regional energy consumption); the urban expansion (land-use change); the environment (greenhouse gas emissions, share of protected areas etc.), among others to be studied.

Next table summarises the key EU policy targets for different time horizons and sectors, with indication of the policy document that introduced them.

Sector	Horizon year	Target	Reference document
Employment	2050	75% of the 20-64 year-olds to be employed	EU2020
R&D / innovation	2020	From 1.8% to 3% of the EU's GDP (public and private combined) to be invested in R&D	EU2020
GHG emissions	2020	Total greenhouse gas emissions 20% in 2020 (or even 30%, if a satisfactory international agreement can be achieved to follow Kyoto) lower than 1990	EU2020
	2020	Total greenhouse gas emissions 25% in 2020 lower than 1990	non-binding resolution 2007
	2050	Total greenhouse gas emissions 50% in 2050 lower than 1990	Energy Policy, 2007
	2050	Total greenhouse gas emissions 80% in 2050 lower than 1990	G8 and EU agreement, july2009

[12] Art. 3 of the consolidated version of the Treaty on European Union: sustainable development of Europe (balanced economic growth, highly competitive social market economy; high level of protection and improvement of the quality of the environment; scientific and technological advance); combating social exclusion and discrimination; promotion of economic, social and territorial cohesion and solidarity among member states; respect of the rich cultural diversity; safeguard and enhancement of Europe's cultural heritage. These Treaty's provisions are the background of the Europe 2020 Strategy (developing an economy based on knowledge and innovation; promoting a more resource-efficient, greener and more competitive economy; fostering a high employment economy delivering social and territorial cohesion). The orientations of the Green Paper on Territorial Cohesion (section: turning territorial diversity into strength) will also be considered: concentration (overcoming differences in density); connecting territories (overcoming distance; facilitating access to services of general interest) and cooperation (overcoming division). The provisions of the new Territorial Agenda will equally be taken into consideration.

Sector	Horizon year	Target	Reference document
	2030 // 2050	Transport emissions (including CO_2 aviation, excl. maritime), +20% to -9% by 2030, and -54% to -67% by 2050, in relation 1990's	*Roadmap for moving to a competitive low-carbon economy in 2050* (EC COM(2011)|112)
Energy sources	2020	20% of total energy from renewables in 2020	EUROPE 2020
	2020	10% of transport energy from renewables in 2020	Renewable Energy Roadmap Communication by the EC, 2007
	2020	10% of transport energy from biofuels in 2020	(European Council, 2007)
Energy consumption	2020	20% increase in energy efficiency by 2020	EUROPE 2020
	2030	50% increase in energy efficiency by 2030	EUROPE2030 report by the Reflection. Group on the Future (F.González)
	2020	20% decrease in primary energy consumption by 2020	20-20-20 targets
General Transport	2020	10% of transport energy from renewables in 2020	Renewable Energy Roadmap Communication by the EC, 2007
	2020	fuel suppliers reduce greenhouse gas emissions from fuel across its life-cycle by 10% by 2020	Energy Policy, 2007
	2020	10% of transport energy from biofuels in 2020	Energy Policy, 2007
	2030 // 2050	Transport emissions (including CO_2 aviation, excl. maritime), +20% to -9% by 2030, and -54% to -67% by 2050, in relation 1990's	*Roadmap for moving to a competitive low-carbon economy in 2050* (EC COM(2011)|112)
	2030	Transport emissions (including CO_2 aviation, excl. maritime), 20% lower in 2030 in relation 2008	Transport White Paper 2011
	2050	Transport emissions (including CO_2 aviation, excl. maritime), 60% lower in 2050 in relation 1990's	Transport White Paper 2011
TEN-T	2030	Multi-modal TEN-T core network by 2030	Transport White Paper 2011
	2050	All core network airports connected to rail network by 2050, preferably by high-speed rail	Transport White Paper 2011
	2050	All core seaports sufficiently connected to the rail freight and, where possible, inland waterway system.	Transport White Paper 2011

Sector	Horizon year	Target	Reference document
Urban transport	2030	Lower 50% the use of “conventionally-fueled” cars in urban transport	Transport White Paper 2011
	2050	0% use of “conventionally-fueled” cars in urban transport	Transport White Paper 2011
	2030	CO2 free logistics in cities by 2030	Transport White Paper 2011
Road transport	2010	Reduction 50% the number of road fatalities by 2010 compared with 2001 levels	
	2030// 2050	By 2020, 50% fatalities in road transport. Close to zero fatalities in road transport by 2050.	Transport White Paper 2011
	2020	Car emissions: 95 g CO_2/km target for 2020	Regulation 443/2009 h
	2030 // 2050	30% of road freight over 300km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050 (facilitated by efficient and green freight corridors)..	Transport White Paper 2011
Rail transport	2030	To triple the length of high-speed rail network by 2030.	Transport White Paper 2011
	2050	To complete a European high-speed rail network by 2050.	Transport White Paper 2011
	2050	By 2050, the majority of medium-distance passenger transport should go by rail. .	Transport White Paper 2011
Aviation	2050	Low-carbon sustainable fuels in aviation to reach 40% by 2050	Transport White Paper 2011
	2020 // 2050	Stabilisation of air emissions by 2020 (carbon neutral growth) and 50% reduction in 2050 compared to 2005	IATA
Maritime	2050	CO_2 emissions from maritime transport should be cut by 40% (if feasible 50%) by 2050, compared to 2005 levels	Transport White Paper 2011
Transport management	2020	SESAR, Modernised air traffic management infrastructure.	Transport White Paper 2011
	2020	To establish the framework for a European multimodal transport information, management and payment system	Transport White Paper 2011
	2050	Move towards full application of “user pays” and “polluter pays” principles	Transport White Paper 2011
Education	2020	Reducing school drop-out rates below 10% by 2020	EU2020
Social exclusion	2020	at least 20 million fewer people in or at risk of poverty and social exclusion by 2020	EU2020

Figure 8-1 Synthesis of actual EU policy targets 2020, 2030, 2050

To accomplish set up targets by 2030, it will be elaborated pathways according to the following steps:

- Analysis of discrepancies between the present situation (2010) and mid-term targets to highlight the necessary trajectories of regions (or groups of regions) to reach the targets;
- Test of the degree of realism of the targets, using forecast and foresight models and, if necessary, adjustment of targets. Particular attention will be paid to the trajectories of less-favoured regions (lagging behind, peripheral, outermost, subject to depopulation, etc.). This step will require mostly the application of foresight meta-models, specially adapted to backcast exercises.
- Definition of a realistic pathway of territorial development for the mid-term horizon (2030). Pathways will be discussed together with midterm targets in the thematic, scientific and policy workshops.

The definition of policy inputs corresponding to the pathway for 2030 will refer to the definition and combination of public policies (policy mix), insisting on synergy effects; the adjustment of the policy mix to specific categories of regions and/or to macro-spaces; the impacts of possible changes in EU policies (intensity and content of cohesion policy; transport and energy policy, CAP etc.) analysed by the application of the modelling tools.

The requirements of the mid-term strategy (targets, pathway, policy input) for changes and improvements in the territorial governance system will refer in particular to the institutional arrangements of relevance for addressing territorial development issues at the EU level (codification, procedures); the coordination of EU policies; the vertical interactions in the definition and implementation of territorial development policies.

9. Territorial Impact Assessment (TIA)

9.1 Approach

The application of TIA to assess territorial impact of 2030 and 2050 scenarios is considered an essential part to give structure and provide support knowledge to the participatory process with ESPON MC and DG Regio intended at defining the 2050 Vision.

It will involve defining the criteria and weights to be considered in the evaluation of scenarios, and identifying the relevant indicators needed. There is no need to further improve the existing TIA software support, but, instead, to adapt it to import results from the forecast and foresight models. Criteria and respective weights will be determined through a participatory procedure involving all the TPG experts and the ESPON CU and MC. In terms of impact indicators, most of the necessary inputs to the TIA model will be provided by the estimation and simulation procedures of the quantitative models and tools utilised in the project. Where this will prove unfeasible, sets of complex indicators will be provided built with statistical elaborations on the basis of group work and discussion inside the TPG.

The work will focus on:

- Defining the relevant criteria and their relative weights (to be subsequently validated by the ESPON MC). This task will be carried out on the basis of the EU Impact Assessment Guidelines (2009) and will involve an aggregation process leading to a smaller number of impact criteria, the “exposure fields” defined in the ESPON ARTS project (about 40 fields to be restricted into 10-15 impact criteria). This is an important part of the consensus building process with ESPON MC and its difficulty will not be underestimated.
- In the first workshop to be organised a discussion towards the definition of criteria will be carried out, and results maybe refined and discussed again during the second policy workshop. This process will allow involving a wider arena of experts and policy makers through some light questionnaires to be distributed and collected during thematic and experts’ workshops. Main questions will concern: sensitive areas to be covered through appropriate impact indicators, political acceptability of possible potential regional disparities in future trends concerning favourable and unfavourable impacts of trends and scenarios, policy options - local and/or generalized - to be devised as policy response to expected impacts.
- Identifying the most likely indicators needed for each criterion of the impact assessment: modellers will analyse the actual capacity (including possible improvements) of their models to produce these indicators, given the scope of the project. This preliminary definition of criteria and indicators will be based on the ESPON experience already available in the area of TIA applied to a relatively large number of European policies and directives, and will be validated through the participatory process.

9.2 Policy-relevant indicators for TIA

Policy-relevant indicators should be available for TIA at NUTS3 level (or a mix of NUTS3 and NUTS2 level for Germany and Belgium), the most appropriate for a really “territorial” inspection. This option has been actually pursued in some previous ESPON projects, namely in TIPTAP for the analysis of European transport policies and CAP.

However, in absence of detailed data for the whole European territory at such a disaggregated level of analysis, TIA has also been successfully applied at NUTS2 level, for example in the frame of the ESPON ARTS project.

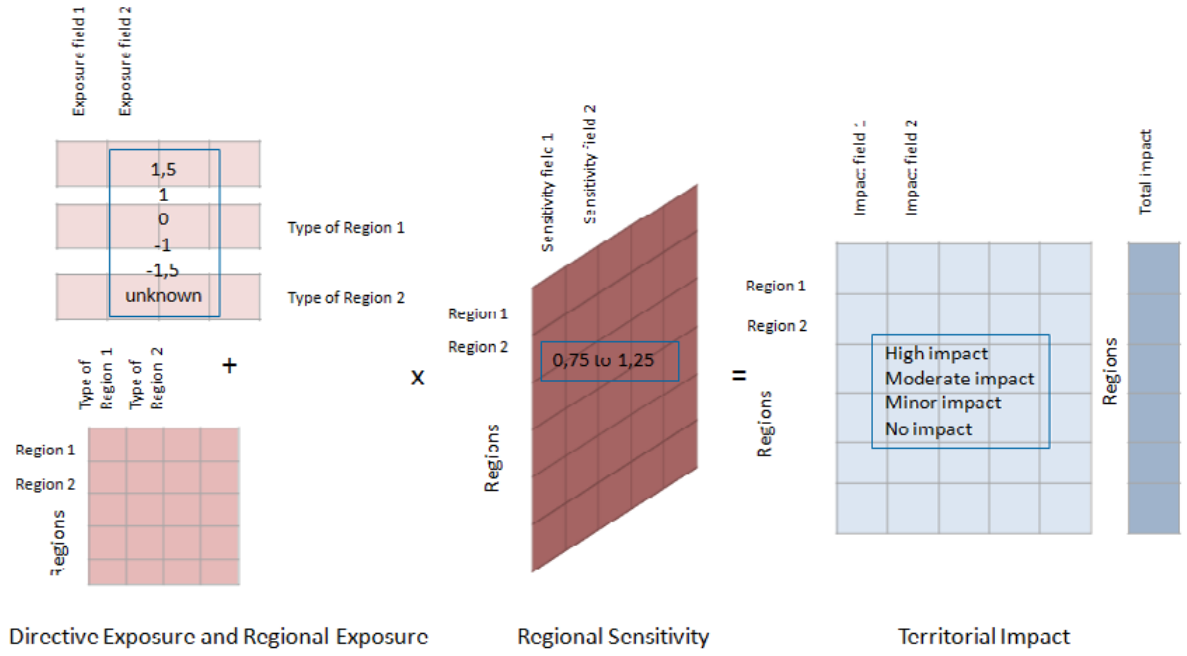

Figure 9-1 Assessment of regional sensitivity to branched EU Directives in ESPON ARTS
(Source: ÖIR, POLIMI et al; 2011: *ESPON ARTS Draft Final Report*)

For the ET2050 project, TIA will be developed at NUTS2 level, possibly extending it to NUTS3 level for a sub-set of impact indicators, according to data availability.

In this light, it is relevant to remark that the data to be used in the assessment exercise developed in the ET2050 project mainly come from previous ESPON projects (namely, the ARTS project) as well as from inputs coming from the models implemented in the project.

9.3 Impact fields considered under TIA

The main families of impact fields to be selected in the TIA will be among the following (mainly from the ARTS project). The definition of weights to compute aggregate impacts on macro-criteria will be a major milestone of the project, and will be done based on inputs received during the participatory activities.

Aggregate impact fields	Tentative impact fields
Economy	GDP (per capita) Employment (manufacturing vs services) Innovation Patents R&D Tourism Entrepreneurship Accessibility
Society	Employment Life expectancy at birth Road accidents Industry accidents Risk of poverty Income disparities Migration,
Environment	Natura 2000 area Land use data (CLC)

Aggregate impact fields	Tentative impact fields
	Emissions Congestion Cultural heritage Flood hazard Land erosion risk Pollutants in air/soil Water consumption
Identity	Landscape fragmentation Creativity Cultural heritage Migration

Figure 9-2 Preliminary list of indicators considered in ET2050 TIA

Other potential enlargements could come from the Polish Presidency document (2011[13]), after careful reflection inside the TPG.

Each of the impact field will be treated through:

- Indicators on existing present conditions;
- Forecasted impact coming from the TPG modelling and/or elaborations;
- Indicators of regional sensitivity to impact fields (mainly coming from the ARTS project and possibly updated.

9.4 TIA of ET2050 Baseline and Explorative Scenarios

The Baseline Scenario will be assessed using TIA techniques, as follows:

- First, the preliminary criteria to evaluate potential territorial impacts and the achievement of key policy-goals and indicators to measure them, already studied in Subtask 2.2.3, will be discussed with the ESPON MC, in the first policy-workshop (month 9), in order to achieve consensus on one sets of weights.
- Second, based on the results produced by the forecast models, TIA will be applied to the 2030 horizon and reviewed critically on each single impact criterion. The situation of different regions and transnational zones will be assessed.
- Third, the results achieved will be summarized and grouped into major impact areas (to be thought of as macro-criteria: e.g. economy, society, environment, and to be discussed with the MC), and into a single "summative" impact, providing a synthetic, at-a-glance, picture of the regions more advantaged and disadvantaged by the expected trends included in the baseline scenario.
- Fourth, the results obtained will be discussed, and the relevant weights will be adjusted as appropriate. Similarly, based on these TIA results, the 2030 scenario will be redefined if necessary.
- Fifth, TIA will be applied to the 2050 Baseline in the same way as for the 2030 scenario. Initial results will be presented and discussed in the thematic workshop (month 12)
- Sixth, presentation of the baseline scenarios (together with their assessment) to the MC in the second workshop devoted to the discussion of Baseline 2050, as well as 2030 if needed. Elaboration of a synthesis of their reactions and observations.

[13] K.Böhme, P.Doucet, T.Komorinicki, J.Zaucha, D.Swiatek (2011), *How to strengthen the territorial dimension of 'Europe 2020' and the EU Cohesion Policy.* Ministry of Regional Development of Poland.

The assessment of the four Explorative Scenarios will comprise several steps:

- TIA, on the basis of results produced by forecast models and foresight meta-models. The TIA results will be synthesized in a small number of major impact areas (economy, society, environment, etc.) and in a single “comprehensive” impact providing a snapshot-differentiated picture of the positively and negatively affected regions for each scenario;
- Elaboration of short, comparative discussion documents related to the four scenarios (TIA results, main emerging territorial issues) in view of future consultations;
- Elaboration of a synthesis document gathering all elements of relevance for the preparation of the Territorial Vision.

10. Project planning

10.1 Schedule of activities

Next figure presents the schedule of activities of ET2050, including official deliveries, participatory events, administrative significant dates.

Day	Month	Year	Month number	Event
23	June	2011	-	1st reporting period begins
	Sep.	2011	1	Kick-off meeting in Luxembourg
	Sep.	2011	1	1 Steering Committee in Luxembourg
	Oct.	2011	2	1 TPG meeting in Barcelona
29-30	Nov.	2011	3	ESPON Internal Seminar Krakow (Poland), Expert's workshop: Discussion/survey on the adjusted territorial scenarios
1	Dec.	2011	4	ESPON Internal Seminar Krakow (Poland), MC Policy-oriented workshop: Discussion of Participatory plan (and existing policy references or alternatives for the "kind" of Vision to be developed?)
31	**Dec.**	**2011**	**4**	**INCEPCION REPORT**
-	Dec.	2011	4	Small groups and interviews
1	Jan	2012	5	2nd reporting period begins
-	Feb.	2012	6	Small groups and interviews
	Feb.	2012	6	ESPON MC Internal Meeting
-	March	2012	7	ESPON CU Thematic workshop
	March	2011	7	2 Steering Committee in Brussels
-	March	2012	7	2 TPG meeting in Brussels with Sounding Board
-	April	2012	8	Small groups and interviews
30	April	2012	8	1st Activity Report submission to CU
-	May	2012	9	Small groups and interviews
31	**May**	**2012**	**9**	**INTERIM REPORT 1**
-	June	2012	10	ESPON Open Seminar (Denmark), Expert's workshop: Trends hypothesis for baseline and extreme territorial scenarios. Transnational specificities. World futures and Common Reference Framework.
-	June	2012	10	ESPON Open Seminar (Denmark), MC Policy-oriented workshop: Discussion on the nature of the Vision to be developed. Presentation of the Participatory activities being carried out, as well as trends hypothesis for baseline and extreme territorial scenarios.
1	July	2012	11	3rd reporting period begins
-	July	2012	11	Small groups and interviews
-	Aug.	2012	12	Small groups and interviews
-	Sept.	2012	13	ESPON MC Internal Meeting
-	Oct.	2012	14	ESPON CU Thematic workshop
-	Oct.	2012	14	3 Steering Committee Meeting
-	Oct.	2012	14	3 TPG Meeting
-	Oct.	2012	14	Small groups and interviews
31	Oct	2012	14	2nd Activity Report submission to CU
-	Dec.	2012	16	ESPON Internal Seminar, Expert's workshop
-	Dec.	2012	16	ESPON Internal Seminar, MC Policy-oriented workshop
-	Dec.	2012	16	Small groups and interviews
1	Jan	2013	17	4th reporting period begins
-	Feb.	2013	18	Small groups and interviews
	Feb.	2013	18	ESPON MC Internal Meeting
-	March	2013	19	ESPON CU Thematic workshop
-	March	2013	19	4 Steering Committee Meeting
30	**April**	**2013**	**20**	**INTERIM REPORT 2**
30	April	2013	20	3rd Activity Report submission to CU
-	May	2013	21	Small groups and interviews
-	June	2013	22	ESPON Open Seminar, Expert's workshop
-	June	2013	22	ESPON Open Seminar, MC Policy-oriented workshop
1	July	2013	23	5th reporting period begins

Day	Month	Year	Month number	Event
-	July	2013	23	Small groups and interviews
-	Aug.	2013	24	Small groups and interviews
	Sep.	2013	25	ESPON MC Internal Meeting
-	Oct.	2013	26	ESPON CU Thematic workshop
-	Oct.	2013	26	5 Steering Committee Meeting
-	Oct.	2013	26	4 TPG Meeting
-	Oct.	2013	26	Small groups and interviews
31	Oct	2013	26	4th Activity Report submission to CU
-	Nov.	2013	27	Small groups and interviews
-	Dec.	2013	28	ESPON Internal Seminar, Expert's workshop
-	Dec.	2013	28	ESPON Internal Seminar, MC Policy-oriented workshop
1	Jan	2014	29	6th reporting period begins
-	Jan.	2014	29	Small groups and interviews
-	Feb.	2014	30	Small groups and interviews
	Feb.	2014	30	ESPON MC Internal Meeting
28	**Feb.**	**2014**	**30**	**DRAFT FINAL REPORT**
-	March	2014	31	ESPON CU Thematic workshop
-	March	2014	31	6 Steering Committee Meeting
-	April	2014	32	Small groups and interviews
30	April	2014	32	5th Activity Report submission to CU
-	May	2014	33	Small groups and interviews
-	June	2014	34	ESPON Open Seminar, Expert's workshop
-	June	2014	34	ESPON Open Seminar, MC Policy-oriented workshop
-	June	2014	34	Small groups and interviews
30	**June**	**2014**	**34**	**FINAL REPORT**
1	July	2014	35	7th reporting period begins
	Sep.	2014	37	ESPON MC Internal Meeting
30	Oct	2014	38	6th Activity Report submission to CU
31	July	2015	47	7th Activity Report submission to CU

Figure 10-1 Schedule of activities and deliveries

10.2 Detailed work plan and partner involvement

The respective levels of involvement of the 13 partners in the various tasks are presented in Figure below. In different intensities the relative implications of partners in the work packages is displayed.

	LP MCRIT	**PP2** TERSYN	**PP3** IGEAT	**PP4** RKK	**PP5** POLIMI	**PP6** CEFMR / IOM	**PP7** S&W	**PP8** RIKS	**PP9** SGH	**PP10** NORDREGIO	**PP11** UT	**PP12** ISIS	**PP13** ERSILIA
Coordination	LEAD												
Participation			LEAD										
Data and modelling tools	LEAD												
The territorial state of Europe 2010			LEAD										
Baseline scenarios 2030 and 2050		LEAD											
Exploratory Scenarios 2050		LEAD											
European Visions 2050			LEAD										
Political & Target Pathways	LEAD												
Visualisation													LEAD
Dissemination	LEAD												

Figure 10-2 Allocation of tasks between partners

Next table provides a 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 adapt to participatory events).*

Deliverable	Character	Deadline	Responsible
Management notes	Internally	Monthly	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	MCRIT
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
Reports of the events to be published in the website	Documented on the website	All over	IGEAT
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, PASH+ and TV+ additional data requirements)	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
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		**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

Deliverable	Character	Deadline	Responsible
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	TERSYN & 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
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	IGEAT

Trends and territorial impacts by sectors. Integrated report	Interim Report 1	Month 8	IGEAT
Trends by transnational zones. Integrated report.	Interim Report 1	Month 8	IGEAT
Report on reference Scenarios and Visions for Europe and the World	Interim Report 1	Month 6	ISIS
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	IGEAT
Reference data to be provided by modellers	Interim Report 1	Month 9	MCRIT

Interim report 1		**Month 9**	

Forecast for 2030 Baseline (by enhanced MULTIPOLES, MASST, T/IC+, SASI)	Website	Month 7	MCRIT, POLIMI, IOM, S&W, RIKS
Baseline scenario 2030 (narrative, story-line by 5-10 years, forecasts)	Interim Report 2	Month 9	TERSYN
Policy-oriented workshop for Baseline 2030 (2)	Website	Month 10	IGEAT
Scientific-oriented workshop for Baseline 2030 (3)	Website	Month 10	IGEAT

Deliverable	Character	Deadline	Responsible
Foresight for 2050 Baseline (mostly by enhanced PASH+, TV+)	Website	Month 11	MCRIT
Baseline scenario 2050 (narrative, story-line by 5-10 years, foresights)	Interim Report 2	Month 12	TERSYN
Territorial assessment of the baseline scenarios	Interim Report 2	Month 14	POLIMI
Thematic workshop with stakeholders for Baseline 2030-2050	Website	Month 14	IGEAT
Assumptions for the three exploratory scenarios	Website	Month 16	TERSYN
Scientific-oriented workshop for Baseline 2030-2050 and first insides on Scenarios	Website	Month 16	IGEAT
Policy-oriented workshop for Baseline 2030-2050 and first insides on Scenarios	Website	Month 16	IGEAT
Data produced by forecast and foresight activities	Website	Month 18	MCRIT
Thematic workshop on Exploratory scenarios	Website	Month 19	IGEAT
Three exploratory scenarios	Interim Report 3 (22on)	Month 19	TERSYN
Forecast for 2030 Exploratory Scenarios (by enhanced MULTIPOLES, MASST, T/IC+, SASI)	Website	Month 19	MCRIT, POLIMI, IOM, S&W, RIKS
Foresight for 2050 Exploratory Scenarios (mostly by enhanced PASH+, TV+)	Website	Month 19	MCRIT
Territorial assessment of the exploratory scenarios	Interim Report 3 (22on)	Month 20	POLIMI

Interim report 2		**Month 20**	

Scientific-workshop to consolidate Exploratory Scenarios (8)	Website	Month 22	IGEAT
Policy-workshop to consolidate Exploratory Scenarios (9)	Website	Month 22	IGEAT
Synthesis document with orientations for the Territorial Vision	Draft final report	Month 22	TERSYN
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 28	IGEAT
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	TERSYN

Draft final report		**Month 28**	

Thematic workshop with stakeholders to consolidate the European Territorial Vision (13)	Website report	Month 31	IGEAT
Scientific workshop to consolidate the European Territorial Vision	Website report	Month 33	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	TERYSIN
Policy recommendations	Final report	Month 29	TERYSIN

Deliverable	Character	Deadline	Responsible
Territorial governance arrangements	Final report	Month 33	TERYSIN
Final report		**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 10-3 Tentative schedule of internal milestones and partner involvement

10.3 Work towards Interim Report 1

The content of the First Interim Report will reflect the orientations given in the Inception Report as well as the results of the discussions having taken place with the Sounding Board in March 2011. The report is envisaged to include the following elements:

a) Preliminary results on the basis of available data, developed indicators, scenarios, policies and European maps, including:

- An overview on concepts and methodology on analysing the present state, building the baseline scenarios and the three territorial scenarios.
- A detailed presentation of a hypothesis on the scenarios and visions.
- Description of the technique/methodology/indicators/models to be used to approach the European territorial scenarios and territorial vision.
- Preliminary results of Step 1, and hypothesis for Step 2 and Step 3 in preparation for stakeholders discussions, on the basis of available information.
- Overview of involvement of stakeholders up to now and planned for the next phase up to the second Interim Report.
- First indications on the conclusions and policy relevant options that could be the outcome of the three steps.

b) Additional material to contribute to the ESPON 2013 capitalisation and communication strategy, including:

- Slideshows explaining the assumptions, the methodology and the results of the project so far.
- A selection of 3-5 maps suitable for the communication of project progress and results at the different stages on the ESPON website, but as well suitable to be used for creation of posters, postcards, exhibition materials, etc.
- Input (text, maps, images) for the creation of a specific section of the ESPON 2013 Website dedicated to the project.

c) Concrete plan for the applied research and stakeholder involvement to finalise Step 1, Step 2 and Step 3 towards the Second Interim Report.

10.4 Use of existing ESPON results

Several projects have addressed the issue of territorial scenarios in the ESPON program in the past, and currently: ESPON Project 3.2, SPAN-3 (SS-LR), DEMIFER, ReRisk, EDORA and FOCI. Additionally, ESPON Climate and ESPON TIPTAP specifically deal with environmental and transport scenarios. These projects will be carefully analysed.

To better deal with rural and marine issues in ET2050, EDORA project (analysing rural development and urban-rural partnership opportunities), and ESaTDOR project (focussed on the analysis of the land-marine interface and marine governance) will be also be closely analysed.

These projects are briefly presented below:

ESPON Project 3.2 - Scenarios on the territorial future of Europe. This project presented several spatial scenarios, exploring alternative directions of possible trends and driving forces related to the future territorial development of the EU. Scenarios were distinguished from predictions, presenting one most probable course of one or some related trends. A trend scenario was presented, followed by a cohesion-oriented and a competitiveness-oriented one. The project concluded with a scenario likely to achieve a desirable territorial evolution in Europe.

ESPON SPAN-3 (SS-LR) Spatial Scenarios: New Tools for Local-Regional Territories. The purpose of this targeted analysis was to transfer, adapt and apply the same spatial scenarios' methodology used within the ESPON Project 3.2 at functional territorial scale, equal or lower than NUTS3. The methodology and instruments were applied to the case of Barcelona Provincial Council (BPC). The outcome of this project searched to enable policy makers to draw up regional, social and economic territorial policies and development strategies for their territories.

ESPON DEMIFER - Demographic and Migratory flows Affecting European Regions and Cities. ESPON DEMIFER aim was to assess future changes in population growth, the size of the labour force and the ageing of the population, and to explore different policy options aiming at regional competitiveness and territorial cohesion. ESPON project DEMIFER has developed four scenarios to show how various policy bundles can lead to different trajectories of developments in population and labour force.

ESPON ReRISK - Regions at Risk of Energy Poverty ESPON ReRISK focuses on opportunities to support competitive and clean energy supplies for regions in Europe and to generate and strengthen sustainable energy sources. It delivers future-oriented territorial evidence on the impact of rising energy prices on the competitiveness of European regions as well as on cohesion in Europe in a long-term perspective. The four ReRisk scenarios, which were elaborated with the help of external experts, are based on the common hypothesis that, by 2030, energy prices still remain at a high level, but that the political response to this challenge will be different.

ESPON EDORA - European Development Opportunities in Rural Areas. ESPON EDORA provided evidence on the development opportunities of diverse types of European rural areas and reveal options for improving their competitiveness. The EDORA Future Perspectives analysis adopts a simplified, qualitative, "foresight" approach, which is appropriate given the limited resources available, the breadth of the issues to be considered, and the fact that in this arena quantified data is rather scarce. This leads to a systematic procedure for scenario development, followed by an expert assessment of the likely implications for the four Structural types of non-urban regions. The two "exogenous" variables introduced above structure the analysis in the form of two axes defining the range of possible outcomes. The first axis stretches between gradual

climate change at one extreme, to rapid change at the other. The second (economic governance) axis ranges from “neo-liberal” to “strongly regulated”.

ESPON FOCI - Future Orientation for Cities. ESPON FOCI provided a broad overview of the current and future issues relevant to urban development in all of Europe. ESPON FOCI presents two scenarios which allow to explore the fate of Europe's cities in two possible evolutions of the macro-economic and political context of Europe and the world. These scenarios should allow to derive policy options that can feed into the current debates about the regional (and urban) dimension of the Europe 2020 strategy, the further implementation of the Territorial Agenda, and the more practical debate about the types of urban policies that could be included in the future structural funds programmes.

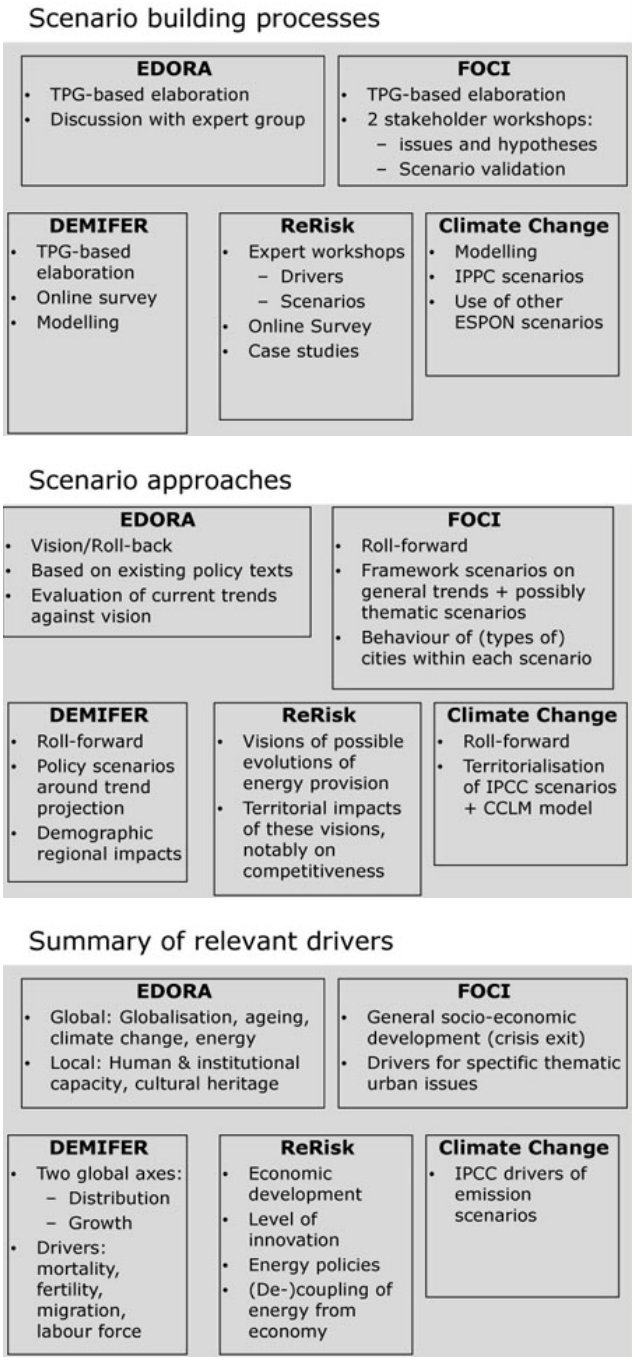

Figure 10-4 Considered approaches to scenarios in ESPON project (Moritz Lennert, 2009)

ESPON CLIMATE - Climate Change and Territorial Effects on Regions and Local Economies in Europe. ESPON Climate deals with the impacts of climate change on the European regions and their economies as well as the consequences for spatial planning. The results of ESPON Climate have to be seen as a possible vulnerability scenario which shows what Europe's future in the wake of climate change may look like and not as a clear-cut forecast. Nonetheless, it gives some evidence based hints as to what adaptation should be about in view of the identified regional typologies of climate change.

ESPON TIPTAP - Territorial Impact Package for Transport and Agricultural Policies. The general goal of the project is to provide a robust and fully operational Territorial Impact Assessment (TIA) tool. Three scenarios are built in the transport policies case: a baseline scenario at 2030, encompassing all investments which are carried out or already decided at present (scenario a); an infrastructure scenario, encompassing new infrastructure links (scenario b) and a pricing scenario, encompassing new regulatory tools such as rules on safety and road pricing with respect to the baseline scenario (scenario c).

ESPON ESaTDOR -. Growing economic activities on and exploitation of the sea coincide with growing environmental concerns about the sea but also about coastal zones. The awareness about the multitude of economic interests in the sea and the lack of coordination in that respect as well as the need to ensure a sustainable use of the sea have spurred activities by policy makers resulting inter alia in the adoption of the Blue Book on an Integrated Maritime Policy (IMP) by the European Commission and a related Action Plan in late 2007. ESaTDOR addresses the various dimensions of the Integrated Maritime Policy such as maritime economy, competitiveness and job creation, energy supply, maritime transport, environmental protection and conservation, climate change, and research and innovation.

10.5 Barriers that the project implementation might face

Difficulties in attracting stakeholders to participate in ET2050 activities: ET2050 participatory plan has been envisaged in coordination with ESPON activities and other events with capacity to attract stakeholders in order to increase the changes of involving a sufficient number of participants. ET2050's will is to approach potential participants instead of expecting participants to approach ET2050.

Difficulties in obtaining feed-back from participants in ET2050 activities: discussion materials, questionnaires, surveys, are intended to trigger and support debate during participation activities. Background material will be provided to participants prior to workshop participation.

Lack of project awareness or interest among targeted stakeholders for participation: the ET2050 website is conceived in order to attract attention to the project using innovative visualisation and gathering interesting materials for debate, both produced by the project or already existing. The TPG includes a specific partner specialist in dissemination techniques.

Difficulties in internal coordination of the TPG: with 13 partners integrating the TPG and additional external experts collaborating with the project, coordination is a key element for ET2050 to be successful. Internal communication channels have been established (Discussion Notes and Administrative Notes) and the website is to gather all produced materials for communication or technical discussion. All partners are permanently updated on all ongoing activities and results.

11. ANNEX 1 - References

11.1 Virtual Library

ET2050 virtual library contains selected documents concerning future trends, technologies, scenarios, policies and databases on a set of topics from societal and demographic issues up to governance, including economy, transport, energy, environment, habitat, land-uses. Use the right menus to browse presently available documents. The library is to be kept updated with new documentation.

This library inherits the works of previous virtual libraries integrating all documents for a suitable use of the ESPON ET2050 project. Major referents are the PASHMINA library (co-funded 7FP) and the URBAN-RURAL issues library (territorial agenda).

All references listed below are on the process of being updated in the Virtual Library, as far as they may be of public domain.

Figure 11-1 Virtual library at http://www.et2050.eu/Et2050_Library/

11.2 Key territorial references and sources

South West Med Region

Key institutions

- Plan Bleu: Regional Activity Centre. Environment and development in the Mediterranean *http://www.planbleu.org/*
- Union for the Mediterranean *http://www.ufmsecretariat.org/en*
- Cross-Border Cooperation in the Mediterranean *http://www.enpicbcmed.eu/*

- Programme Med *http://www.programmemed.eu/index.php?id=5175&L=1*
- Coastal Zone Policy: The Coastal Management Centre
- European Institute of the Mediterranean *http://www.iemed.org/*
- Institut de la Mediterranée
- Institut de Prospective Économique du Monde Mediterrannée IPEMED *http://www.ipemed.coop/*
- Marseille Centre of Mediterranean Integration *http://www.cmimarseille.org/Resources.php*
- Commission Interméditerranéenne *http://www.medregions.com/*
- EuroMed Transport Project *http://www.euromedtransport.org/En/home_4_46*

Key reference documents

- Polytechnico di Milano 2010. *ESPON SS-LR - Spatial Scenarios: New Tools for Local-Regional Territories.* European Union.
- Free University of Brussels - IGEAT 2007. *ESPON Project 3.2 - Spatial scenarios in relation to the ESDP and EU Cohesion Policy*. European Union.
- Netherlands Interdisciplinary Demographic Institute NIDI 2010. *ESPON DEMIFER - Demographic and Migratory Flows Affecting European Regions and Cities*. European Union.
- Innobasque 2010. *ESPON ReRISK - Regions at Risk of Energy Poverty*. European Union.
- Free University of Brussels – IGEAT 2010. *ESPON FOCI - Future Orientation for Cities.* European Union.
- Labein-Tecnalia- Technology Centre 2013. *ESPON EU LUPA - European Land Use Patterns*. European Union.
- Polytechnics of Milan – DIG 2010. *ESPON TIPTAP - Territorial Impact Package for Transport and Agricultural Policies.* European Union.
- TU Dortmund University 2011. *ESPON CLIMATE – Climate Change and Territorial Effects on Regions and Local Economies en Europe.* European Union.
- University of the Highlands and Islands 2010. *ESPON EDORA - European Development Opportunities in Rural Areas*. European Union
- Barragán JM. *Las áreas litorales de España*. *Del análisis geográfico a la gestión integrada.* Editorial Ariel.
- 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 2010. *15th Council of Europe Conference of Ministers responsible for spatial/ regional planning.* European Union

- CEMAT 2000. *Guiding Principles for Sustainable Spatial Development of the European Continent.*
- 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.*
- Gesano G.Heins F; Regional 2009. *Challenges in the perspective of 2020. Regional disparities and future challenges*.
- 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.
- Institut Català de la Mediterrània 1999. *El Espacio Mediterrnáneo Latino*.
- Institut Català de la Mediterrània 1995. *Towards a New Scenario of Partnership in the Euro-Mediterranean Area*
- Institut Europeu de la Mediterrània 2010. *Med 2010. Anuari IEMEd de la Mediterrània.*
- 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.*
- 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.
- Plan Bleu 2005. *A sustainable future for the Mediterranean.*
- Plan Bleu 2007. *Urban Areas.* Blue Plan Notes
- Plan Bleu 2007. *Rural Areas.* Blue Plan Notes
- Sophia Antipolis 2004. *Climate Change and Energy in the Mediterranean*. Plan Bleu
- Tourret JC; Wallaert V 2010. *MedGovernance Project. 3 Scenarios for a Mediterranean Macro-Regional Approach*. Institut de la Méditerranée.
- Tourret J; Wallaret V 2008. *Méditerranée 2030. 4 scénarios pour les territoires méditerranés.* Institut de la Méditerranée.
- 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

- 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.*

Central Med Region

Key institutions

- International Monetary Fund Country Reports *http://www.imf.org/external/country/index.htm#L*
- World Bank Country profiles *http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/0,,pagePK:180619~theSitePK:136917,00.html#l*
- OECD Country web sites only for Italy and Slovenia *http://www.oecd.org/countrieslist/0,3025,en_33873108_33844430_1_1_1_1_1,00.html*
- European Union Country profiles only for Italy and Slovenia *http://europa.eu/about-eu/countries/index_en.htm*
- African Union Country profiles only for Libya and Egypt *http://www.au.int/en/member_states/countryprofiles*
- CIA World factbooks
- UK Foreign and Commonwealth Office Country profiles *http://www.fco.gov.uk/en/travel-and-living-abroad/travel-advice-by-country/country-profile/*
- United Nations Development Programme Country Programme Documents only for Libya and Egypt *http://arabstates.undp.org/subpage.php?spid=18&sscid=98*
- World Trade Organization – Information on member countries information on libya only as an observer government *http://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm*
- United Nations Conference on Trade and Development UNCTAD Country Fact Sheets *http://www.unctad.org/templates/Page.asp?intItemID=2441&lang=1*

Key reference documents

- Europe 2020 strategy *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:2020:FIN:EN:PDF*
- Annual Growth Survey 2012 *http://ec.europa.eu/europe2020/pdf/ags2012_en.pdf*
- Country recommendations Euro Area July 2011 *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:217:0015:0017:EN:PDF*
- Uppenberg, K. 2009. “The knowledge economy in Europe”, *Review of the 2009 EIB Conference in Economics and Finance* *http://www.eib.org/attachments/efs/the_knowledge_economy_in_europe.pdf*

- 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 *http://www.iie.com/publications/papers/wolff20110913.pdf.*
- African Economic Outlook 2011. “Egypt Full Country Note” *http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/Country_Notes/2011/Full/Egypt.pdf.*
- World Bank 2011. “Doing business economic profile Egypt” *http://www.doingbusiness.org/~/media/fpdkm/doing%20business/documents/profiles/country/EGY.pdf.*
- Central Bank of Egypt Annual Report 2009-2010 *http://www.cbe.org.eg/public/annualreport2009_2010E.pdf.*
- 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 2192 6905: *http://wikis.fu berlin.de/download/attachments/17138089/Elliesie+Egypt.pdf.*
- National Reform Programme 2011 *http://ec.europa.eu/europe2020/pdf/nrp/nrp_italy_it.pdf*
- European Commission’s Country recommendations for Italy July 2011 *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:217:0015:0017:EN:PDF*
- “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 *http://www.bancaditalia.it/pubblicazioni/seminari_convegni/Fiscal_Policy/6_Fiscal_Policy.pdf.*
- Smith, D.M. 1997. “*Modern Italy: a political history*”, Ann Arbor MI: University of Michigan Press.
- “Libya after Qaddafi”, *The Economist*, Oct 29th 2011.
- World Bank 2006. “Socialist People’s Libyan Arab Jamahiriya Country Economic Report”, *Report No. 30295-LY* *http://siteresources.worldbank.org/INTLIBYA/Resources/libyacountryeconomicreport.pdf*
- Mobbs,. P. M. 2002. “The mineral industry of Libya”, in “2001 US geological survey minerals yearbook” *http://minerals.usgs.gov/minerals/pubs/country/2001/lymyb01.pdf.*
- African Economic Outlook 2011. “Libya Full Country Note” *http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/Country_Notes/2011/Full/Egypt.pdf.*
- National Reform Programme 2011 *http://ec.europa.eu/europe2020/pdf/nrp/nrp_slovenia_en.pdf*
- European Commission’s Country recommendations for Slovenia July 2011 *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2011:217:0001:0004:EN:PDF*
- OECD Economic Surveys: Slovenia 2011 *http://www.oecd.org/document/0/0,3746,en_33873108_38910029_47068236_1_1_1_1,00.html*
- Bank of Slovenia Financial Stability Review May 2011 *http://www.bsi.si/en/publications.asp?MapaId=784*

North-West Region

Key institutions

- INTERREG IVB MED Programme. Joint Technical Secretariat 14 Rue Sainte Barbe - 13002 Marseille, France.
- INTERREG IVB North West Europe Programme. Joint Technical Secretariat "Les Arcuriales", 6th Floor, 45, rue de Tournai, Entrée D F-59000 Lille, France.
- Interreg IV Flanders Contact point: Alain Colard, WBI. Flanders :Departement Ruimtelijke Ordening, Woonbeleid en Onroerend Erfgoed, Afdeling Ruimetelijke Planning.
- Wallonie:Service public de Wallonie, DGO4 Direction générale opérationnelle Aménagement du territoire, Logement, Patrimoine et Energie Direction de l'Aménagement régional
- Région de Bruxelles-Capitale. Ministère de la Région de Bruxelles-Capitale, Administration de l'Aménagement du Territoire et du Logement AATL.Ann Geets, Directrice, CCN - Rue du Progrès, 80/1, 1035 Bruxelles, +32 0 2 204 2357
- DATAR Délégation interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale
- Institut de Géographie Alpine. 14 bis, avenue Marie Reynoard 38100 Grenoble.
- Spatial Policy Section. Department of the Environment, Heritage and Local Government, Custom House, IRL-DUBLIN 1.
- Ministère du Développement Durable et des Infrastuctures, Département de l'Aménagement du Territoire, 1, rue du Plébiscite, L - 2341 Luxembourg
- Ministry VROM Volkshuisvesting, Ruimtelijke Ordening en Milieubeheer. Bezoekadres, Rijnstraat 8, 2515 XP Den Haag,
- Communities and Local Government. International Planning Policy Planning - Development Management, 1/J3 Eland House, Bressenden Place, London, SW1E 5DU

Key reference documents

- Albrechts L., D'hondt F., Liévois E., Steenberghen T., Steenwegen L., Tasan-Kok T., Jacob Trip J., Van Den Broeck P., Zonneveld W. 2007 *Inventarisatie van de voor het Vlaams ruimtelijke beleid relevante ruimtelijke ontwikkeling in de buurregio's en op transnationaal niveau*. Opdrachtgever: Afdeling Ruimtelijke Planning - Departement RWO – Vlaamse overheid
  http://www2.vlaanderen.be/ruimtelijk/rsv/studies/docs/buurregios/studie_eindrapport_inv_buurregios_transnationaal_100807.pdf main text
  http://www2.vlaanderen.be/ruimtelijk/rsv/studies/docs/buurregios/studie_figurenatlas_inv_buurregios_transnationaal_100807.pdf maps - interesting!
- 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' *http://atlas-transmanche.certic.unicaen.fr/commun/lecteur2f/racine.php?base=atlas&idlangue=eng*

- 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:

  http://www.coe.int/t/dg4/cultureheritage/heritage/cemat/ConfMinist1-15/15eCEMAT_National_Report_France_2010_EN.pdf
  http://www.coe.int/t/dg4/cultureheritage/heritage/cemat/ConfMinist1-15/15eCEMAT_National_Report_Ireland_2010_EN.pdf
  http://www.coe.int/t/dg4/cultureheritage/heritage/cemat/ConfMinist1-15/15eCEMAT_National_Report_Luxembourg_2010_FR.pdf
  non available for Belgium, the Netherlands and United Kingdom
- Conference of Peripheral Maritime Regions CPMR of Europe 2005 *Atlantic Spatial Development Perspective*. slightly earlier version available on line: *http://atlanticarea.ccdr-n.pt/documentation/other-useful-documents/asdp-atlantic-spatial-development-perspective*

- Conférence Permanente du Développement Territorial CPDT 2011 *Diagnostic territorial de la Wallonie http://cpdt.wallonie.be/?id_page=72*

- 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*.
  http://www.ladocumentationfrancaise.fr/catalogue/9782110051509/index.shtml

- 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 *http://territoires2040.datar.gouv.fr/spip.php?rubrique35&revue=1* Voir aussi autres numéros de la revue : *http://territoires.gouv.fr/toutes-nos-publications*

- Délégation interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale DATAR *Observatoire des territoires http://www.territoires.gouv.fr/observatoire-des-territoires/fr/node*

- ESPON 2006 Programme 2005 *ECP Transnational Networking-ESPON going regional– Synthesis Report*
  http://www.espon.eu/export/sites/default/Documents/Events/ESPON2006Seminars/ECPTransnationalSeminars/ESPONGoingRegionalSeminars/fr-egr_final_20-1-2006.pdf

- ESPON 2013 Programme 2011 *TranSMEC Transnational Support Method for European Cooperation* Targeted Analysis 2013/2/7 Draft Final Report
  http://www.espon.eu/export/sites/default/Documents/Projects/TargetedAnalyses/TransMEC/TranSMEC-_revised_draft_final_report_02082011-r.pdf this project targets the NWE IIIB and IVB programmes

- ESPON 2013 Programme 2010 *METROBORDER Cross-border Polycentric Metropolitan Regions*.
  http://www.espon.eu/export/sites/default/Documents/Projects/TargetedAnalyses/METROBORDER/METROBORDER_-_Final_Report_-_29_DEC_2010.pdf

- Evans N. – CUDEM 2005 *Study No 4 - Synthesis Report, Towards a Strategic Framework for Action*, NWE-ENO, Leeds Metropolitan University.
  http://3b.nweurope.eu/upload/documents/programme/2483.Final_report_study4.pdf

- Synthesis of the NWE Spatial Vision Studies. See also the three thematic studies:

  On polycentric territorial development DÜHR, S. & NADIN V.:
  http://3b.nweurope.eu/upload/documents/programme/2479.study_1_final_report.pdf

On parity of access to infrastructure and knowledge TERSYN, ROBERT, J.: *http://3b.nweurope.eu/upload/documents/programme/2481.Final_Report-Study2.pdf*

On sustainable management of the natural and cultural heritage EURONET: *http://3b.nweurope.eu/upload/documents/programme/2482.towards_a_framework_for_action_FINAL_VERSION_Study3.pdf*

and the initial NWE Spatial Vision Spatial Vision Working Group, University of the West of England 2000 *http://3b.nweurope.eu/upload/documents/spatial_vision/1069.Spatial_Vision_eng.pdf*

- Gouvernement wallon 1999 *Schéma de Développement de l'Espace Régional* *http://developpement-territorial.wallonie.be/pages/Quoi.html*

- INTERREG IVB Atlantic Area Programme 2007 *Operational Programme, Atlantic Area Transnational Cooperation 2007-2013* *http://www.coop-atlantico.com/documentation/operational-programme/atlantic-area-transnational-programme-2007-2013*

- INTERREG IVB North West Europe Programme 2007 *Transnational territorial co-operation - Operational Programme 2007-2013 for North West Europe* *http://www.nweurope.eu/nwefiles/file/OP_EN.pdf*

- INTERREG IVB North West Europe Programme 2007 *Opportunities for Territorial Change- INTERREG IIIB North West Europe Programme retrospective 2002-2008* *http://www.nweurope.eu/nwefiles/file/Strategic_Report_english_webfinal.pdf*

- 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*. *http://www.northsearegion.eu/files/user/File/IVB%20Document%20Library/Programme_Materials_and_Documents/Operational%20Programme.pdf*

- Ministère de la Région de Bruxelles-Capitale 2002 *Plan Régional de Développement PRD* *http://www.prd.irisnet.be/FR/info.htm*

- Ministerie van Infrastructuur en Milieu 2011 *Ontwerp Structuurvisie Infrastructuur en Ruimte – Nederland concurrerend, bereikbaar, leefbaar en veilig* *http://www.rijksoverheid.nl/onderwerpen/ruimte-en-mobiliteit/documenten-en-publicaties/rapporten/2011/06/14/ontwerpstructuurvisie-infrastructuur-en-ruimte.html*

- *National Spatial Strategy for Ireland 2002-2020 - People, Places and Potential* 2002?? *http://nss.ie/pdfs/Completea.pdf*

- Scottish Government 2009 *National Planning Framework for Scotland*. *http://www.espon-interstrat.eu/admin/attachments/National_Planning_Framework_for_Scotland.pdf*

- 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* *http://ec.europa.eu/regional_policy/sources/docgener/evaluation/pdf/expost2006/expo_interreg_north_west_europe.pdf*

- Vision Working Group, PLANCO Consulting GmbH 2000 NorVision – *A Spatial Perspective for the North Sea Region*. *http://www.northsearegion.eu/files/user/File/Norvision/norvision.pdf*

- Vlaamse Overheid 2009? *Vrind 2009 – Vlaamse Regionale Indicatoren*. *http://www4.vlaanderen.be/dar/svr/Pages/2009-07-01-vrind2009.aspx*

- Vlaamse Overheid 2011 *Ruimtelijke Structuurplan Vlaanderen* officieus gecoördineerde versie *http://www2.vlaanderen.be/ruimtelijk/docs/rsv2011/RSV2011.pdf*

- N.B. Planning in England: no national spatial planning document apart from the former Planning Policy Guidances – PPG and the new Planning Policy Statements - PPS. Regional Spatial Strategies *http://en.wikipedia.org/wiki/Regional_spatial_strategy - cite_note-3* RSS were formally revoked, under s796 of the Local Democracy Economic Development and Construction Act 2009, on 6 July 2010. Many are still available on the Internet, but not very convenient for a comprehensive analysis of spatial trends on the UK territory.

Central and Alpine Region

Key institutions

- Federal Ministry of Transport, Building and Urban Development, Invalidenstraße 44, 10115 Berlin. *http://www.bmvbs.de*
- Federal Institute for Research on Building, Urban Affairs and Spatial Development, Deichmanns Aue 31-37, 53179 Bonn. *http://www.bbsr.bund.de*
- Federal Office for Spatial Development ARE, CH-3003 Bern. *http://www.are.admin.ch*
- Austrian Conference on Spatial Planning - ÖROK, Ballhausplatz 1, 1014 Wien. *www.oerok.gv.at*

Key reference documents

- Bundesamt für Bauwesen und Raumordnung 2005: *Raumordnungsbericht 2005*. Berichte 21. Bonn:BBR.*http://www.bbsr.bund.de/cln_032/nn_22548/BBSR/DE/Veroeffentlichungen/Abgeschlossen/Berichte/2000__2005/Downloads/Bd21ROB2005,templateId=raw,property=publicationFile.pdf/Bd21ROB2005.pdf*
- Bundesamt für Raumentwicklung 2005: *Raumentwicklungsbericht 2005*. Bern: ARE. *http://www.are.admin.ch/dokumentation/publikationen/00140/index.html?lang=de&download=NHzLpZeg7t,lnp6I0NTU042l2Z6ln1acy4Zn4Z2qZpnO2Yuq2Z6gpJCDd31,fGym162epYbg2c_JjKbNoKSn6A*
- Bundesamt für Raumentwicklung et al. 2010: *Raumkonzept Schweiz.* Entwurf für die tripartite Konsultation. Bern: ARE. *http://www.are.admin.ch/themen/raumplanung/00228/00274/index.html?lang=de&download=NHzLpZeg7t,lnp6I0NTU042l2Z6ln1acy4Zn4Z2qZpnO2Yuq2Z6gpJCEdYR3hGym162epYbg2c_JjKbNoKSn6A*
- 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. *http://www.bmvbs.de/cae/servlet/contentblob/34254/publicationFile/10825/bundesverkehrswege-plan-2003-beschluss-der-bundesregierung-vom-02-juli-2003.pdf*
- Bundesministerium für Verkehr, Bau und Stadtentwicklung 2006: *Leitbilder und Handlungsstrategien für die Raumentwicklung in Deutschland* . Berlin: BMVBS. *http://www.bmvbs.de/cae/servlet/contentblob/31494/publicationFile/545/leitbilder-und-handlungsstrategien-fuer-die-raumentwicklung-in-deutschland-2006.pdf*
- 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.
http://www.et2050.eu/Et2050_Library/docs/alpine_germany/Blossom_Scenarios_Austria_EEA_2011.pdf

- 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.
http://www.et2050.eu/Et2050_Library/docs/alpine_germany/Blossom_Scenarios_Germany_EEA_2011.pdf

- 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.
http://www.bbsr.bund.de/cln_032/nn_23582/BBSR/EN/Publications/OnlinePublications/2011/DL__ON012011,templateId=raw,property=publicationFile.pdf/DL_ON012011.pdf

- 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.*http://www.bbsr.bund.de/cln_016/nn_23494/BBSR/DE/Veroeffentlichungen/BMVBS/Forschungen/2009/Heft135.html*

- 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.
http://www.diw.de/documents/publikationen/73/diw_01.c.376261.de/diwkompakt_2011-060.pdf

- 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.

Baltic and Nordic Region

Key institutions

- EU Strategy for the Baltic Sea Region *http://eu.baltic.net/Baltic_Sea_Region_Strategy.7428.html*

- VASAB - Vision and Strategies around the Baltic Sea *http://www.vasab.org/*
- EU´s Arctic Policy European External Action Service *http://eeas.europa.eu/arctic_region/index_en.htm*
- Northern Dimension ND European External Action Service *http://eeas.europa.eu/north_dim/index_en.htm*
- Arctic Council *http://www.arctic-council.org*
- Nordic Council of Ministers *http://www.norden.org*
- The Northern Sparsely Populated Areas NSPA *http://www.nspa-network.eu/*
- Nordregio *http://www.nordregio.se/*

Key reference documents

- EU Strategy for the Baltic Sea Region 2009 *Communication - concerning the European Union Strategy for the Baltic Sea Region* - 10.6.2009 *http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/baltic/com_baltic_en.pdf*
- 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 *http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/baltic/action_17122010_en.doc*
- European Union 2010: *The EU Strategy for the Baltic Sea Region: Background & analysis* *http://ec.europa.eu/regional_policy/cooperate/baltic/pdf/2010_baltic.pdf*
- VASAB 2009 *Long-Term Perspective for the Territorial Development of the Baltic Sea Region* *http://www.vasab.org/conference/upload/dokumenti/vasab_ltp_final.pdf*
- VASAB 2010 Plus *http://www.vasab.org/?id=46*
- VASAB: *Wismar Declaration on transnational spatial planning and development policies for the Baltic Sea Region to 2010* *http://www.vasab.org/?id=36*
- VASAB 2009 *Long-Term Perspective for the Territorial Development of the Baltic Sea Region – Background synthesis document* *http://www.vasab.org/conference/upload/dokumenti/ltp_background_document.pdf*
- 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* *http://www.bsr2011.eu/wp-content/uploads/2011/10/State-of-Region-Report-2011-Section-B-CLEAN-09-23-11.pdf*
- Baltic Development forum 2009 *Baltic Sea Agenda - “Northern European Knowledge Market Creating a single market for knowledge in the Baltic Sea Region”* 2009 *http://www.bdforum.org/cmsystem/wp-content/uploads/files/reports_baltic_sea_agenda_2009.pdf*
- Baltic Development forum. Annual Summits; i.e. 2011 Summit meeting material - i.e

  Political State of the Region Report 2011 *http://www.bsr2011.eu/wp-content/uploads/2011/10/Political-BDF_SoRR_Political_2011_04.pdf*

Promotion of Trade and Investments in the Baltic Sea Region *http://www.bsr2011.eu/wp-content/uploads/2011/11/BDF_Trade_Investment_Report.pdf*

The Baltic Sea States Subregional Co-operation BSSSC Position Paper on the second year of implementation of the EU Strategy for the Baltic Sea Region. 18 May 2011 *http://www.bsr2011.eu/wp-content/uploads/2011/10/BSSSC_Position_Paper_EU_BSR.pdf*

- Communication from the Commission to the European Parliament and the Council - 2008 *The European Union and the arctic region* *http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0763:FIN:EN:PDF*

- EU´s Arctic Policy European External Action Service 2009 Council Arctic Conclusions in December 2009 *http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/EN/foraff/111814.pdf*

- EU´s Arctic Policy European External Action Service 2009 Draft Report on a sustainable EU policy for the High North 20092214INI *http://www.europarl.europa.eu/meetdocs/2009_2014/documents/afet/pr/836/836872/836872en.pdf*

- Northern Dimension ND European External Action Service 2006 ND Political Declaration *http://ec.europa.eu/external_relations/north_dim/docs/pol_dec_1106_en.pdf*

- Northern Dimension ND European External Action Service 2006 ND Policy Framework Document *http://ec.europa.eu/external_relations/north_dim/docs/frame_pol_1106_en.pdf*

- Arctic Council. Working groups´ reports/assessments ACAP, AMAP, CAFF, EPPR; PAME, SDWG: *http://www.arctic-council.org/index.php/en/about/documents/category/7-working-groups-scientific-reportsassessments*

- Arctic Council Declarations: *http://www.arctic-council.org/index.php/en/about/documents/category/5-declarations*

- Arctic Council National *Arctic Strategies and Statements from Countries-Members of the Arctic Council* *http://www.arctic-council.org/index.php/en/about/documents/category/12-arctic-strategies*

- Nordic Council of Ministers 2011 *Megatrends in the Arctic. Nordic* Council of Ministers, TemaNord 2011:527 *http://www.norden.org/en/publications/publikationer/2011-527/at_download/publicationfile*

- Nordic Council of Ministers 2010 *Arctic Social Indicators - A follow-up to the Arctic Human Development Report*. Nordic Council of Ministers, TemaNord 2010:519 *http://www.norden.org/sv/publikationer/publikationer/2010-519/at_download/publicationfile*

- Nordic Council of Ministers 2010 *European Union and the Arctic - Main developments July 2008–July 2010*, ANP 2010:763 *http://www.norden.org/en/publications/publikationer/2010-763/at_download/publicationfile*

- The Northern Sparsely Populated Areas NSPA 2010 *Political Statement Summary* *http://ec.europa.eu/regional_policy/newsroom/pdf/nspa_25012010.pdf*

- Erik Gløersen, Alexandre Dubois, Johanna Roto, Rasmus Ole Rasmussen and Jose Sterling 2009: *Development opportunities for the NSPA: Opportunities and challenges*. Analytical report. Nordregio Electronic Working Paper 2009:3 *http://www.nordregio.se/en/Publications/Publications-2009/Development-perspectives-for-the-NSPA/*

- Schmitt, Peter & Dubois, Alexandre 2008: *Exploring the Baltic Sea Region - On territorial capital and spatial integration*. Nordregio Report 2008:3 *http://www.nordregio.se/en/Publications/Publications-2008/Exploring-the-Baltic-Sea-Region/*

- Hanell, Tomas & Neubauer, Jörg 2005: *Cities of the Baltic Sea Region - Development Trends at the Turn of the Millennium*. Nordregio Report 2005:1
  http://www.nordregio.se/en/Publications/Publications-2005/Cities-of-the-Baltic-Sea-Region---Development-Trends-at-the-Turn-of-the-Millennium/

- Erik Gløersen, Alexandre Dubois, Andrew Copus and Carsten Schürmann 2005: *Northern peripheral, sparsely populated regions in the European Union*. Nordregio Report 2005:4
  http://www.nordregio.se/en/Publications/Publications-2005/Northern-peripheral-sparsely-populated-regions-in-the-European-Union/

Eastern Region

Key institutions

- The Chancellery of the Prime Minister of Poland, Strategic Analysis Department, 00583 Warsaw, Al. Ujazdowskie 1/3, *www.premier.gov.pl/en/*
- Central Statistical Office of Poland, 02925 Warsaw, Al. Niepodległosci 208 *www.stat.gov.pl*
- Pro Regio, Maguszew Duzy 67, 06220 Szelkow
- Joint Technical Secretariat. Crossborder Cooperation Programme Poland-Belarus-Ukraine 2007-2013, 02672 Warsaw, ul Domaniewska 39a
- Ministry of Economy of the Republic of Belarus, Regional Development and the Environment Department, 220050 Mynsk, Bersona St 14
- Ministry for Regional Development, Building and Housing of Ukraine, 01025 Kyiv, Velyka Zhytomyrskaja 9
- Ministry of Regional Development, Department of Coordination of Structural Policy, 00926 Warsaw, Wspolna 2/4 *www.mrr.gov.pl*
- Ministry of Regional Development, Department of Territorial Cooperation, 00926 Warsaw, Wspólna 2/4 *www.mrr.gov.pl*
- National Association of Regional Development Agencies – NARDA, Kyiv
- National Institute for Strategic Studies NISS, 01030 Kyiv, Pirohova St 7-a
- National Statistical Committee of the Republic of Belarus, 220070 Minsk, Partizansky Avenue 12
- Polish Academy of Sciences, Committee for Spatial Economy and Regional Planning, 00901 Warsaw, Pałac Kultury i Nauki
- The State Committee of Statistics of Ukraine, *www.gus.pl/content/zagraniczne-urzedy* information pages only in local language

Key reference documents

- European Commission (2010) *Analysis of Territorial Typology of Ukraine. Maps and analysis of Indicators*, Brussels, EuropeAid 125234/C/SER/UA
- 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 (2011) *European Neighbourhood and Partnership Instrument. Belarus. National Indicative Programme,* Brussels
- Arcipowska, M., Wojna, B. (2011) *European Neighbourhood Policy: How to Reconcile EU's Offer with Neighbour's Expectations,* PISM Policy Papers, Warsaw.
- Adamski, L. (2009) *Eastern Partnership and EU Policy towards Belarus*, PISM, Warsaw
- Kravciv, V. Storonyanska, I.(2009) *Disproportions of Regional Development in Ukraine*, 3rd Central European Conference in Regional Science – CERS 2009
- Local Data Bank. Layout by NTS nomenclature, Central Statistical Office of Poland, Warsaw, *www.stat.gov.pl/bdr*
- 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)
- Ministry of Regional Development (2010) *National Strategy of Regional Development 2010-2020. Regions, cities, rural areas*, Warsaw
- Ministry of Regional Development (2006) *Poland. National Strategic Reference Framework 2007-2013 in support of growth and jobs*, Warsaw.
- Prime Minister Office (2009) *Poland 2030. Development Challenges*, Warsaw.
- European Commission (2009) *Regional Development in EU: Lessons for Ukraine,* Brussels, EuropeAid/125234/C/SER/UA
- Romaniuk, S. *Regional Development Policy in Ukraine: Current Situation and New Opportunities*,
- European Commission (2010) *Strategic Framework and Plan of Implementation of the State Strategy*, 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 (2011) *Support to Sustainable Regional Development in Ukraine II,* Draft Final Report, Brussels, Contract 2010/258225/C/SER/UA

11.3 Key sectoral references and sources

Demography

Key institutions

- World Bank *http://www.worldbank.org/*
- UN Population Division *http://www.un.org/esa/population/*
- United Nations Population Fund (UNFPA) *http://www.unfpa.org/public/*
- DG Regional Policy (REGIO) *http://ec.europa.eu/dgs/regional_policy/index_en.htm*
- DG Economic and Financial Affaires (ECFIN) *http://ec.europa.eu/dgs/economy_finance/index_en.htm*
- DG Employment, Social Affaires and Inclusion *http://ec.europa.eu/social/home.jsp?langId=en*
- Eurostat *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home*
- UNECE Population Activities Unit *http://www.unece.org/pau/welcome.html*
- NIDI *http://www.nidi.knaw.nl/smartsite.dws?ch=NID&id=2807&Lang=ENG*
- INED *http://www.ined.fr/en/homepage_of_ined_website/*
- IIASA *http://www.iiasa.ac.at/*
- Vienna Institute of Demography *http://www.oeaw.ac.at/vid/*

Key reference documents

- Coleman, D. A. (1992). Does Europe need immigrants? Population and work force projections. *International Migration Review* 26 (2): 413-461.
- Frejka T., T. Sobotka, J. M. Hoem, L. Toulemon (2008) Summary and general conclusions: Childbearing Trends and Policies in Europe. *Demographic Research*, 19, 5-14, http://www.demographic-research.org/Volumes/Vol19/2/
- Jennissen, R. (2004). *Macro-economic determinants of international migration in Europe*. Dutch University Press, Amsterdam.
- Juha Alho, Maarten Alders, Harri Cruijsen, Nico Keilman, Timo Nikander and Dinh Quang Pham (2006) New forecast: Population decline postponed in Europe. *Statistical Journal of the United Nations ECE* 23 1–10 1
- Van de Kaa D. (1987) Europe's Second Demographic Transition. *Population Bulletin* 42, 1.
- Keilman, N. (2001). Demography: Uncertain population forecasts. *Nature*, 412(6846): 490–491.
- Kotowska, I.E., Matysiak A. (2008). Reconciliation of work and family under different institutional settings, In: Höhn Ch., Avramov D., Kotowska, I.E. (eds.), *People, Population Change and Policies: Lessons from the Population Policy Acceptance Study*, den Hague: Springer, 347-370,

- Kupiszewski M. (ed.) *International migration and the futures of populations and labour force resources in Europe*. The Springer Series on Demographic Methods and Population Analysis, Springer (forthcoming).
- Lutz, W., Sanderson, W., and S. Scherbov. 2008. The coming acceleration of global population ageing. *Nature* 451: 716-719
- National Academy (2000) *Beyond 6 billon. Forecasting the World's population.* Washington DC.
- Oeppen J., Vaupel, J. W. (2002). Demography: Broken Limits to Life Expectancy, *Science* 296: 1029-1031.
- Skirbekk, Vegard, Wolfgang Lutz and Maria Rita Testa (2005) The Low Fertility Trap Hypothesis: Forces that may lead to further postponement and fewer births in Europe. *European Demographic Research Papers*, 4.
- United Nations (2011). *World Population Prospects: 2010 Revision*. United Nations, New York.
- Vallin J., F. Meslé (2004), Convergences and divergences in mortality. A new approach to health transition. *Demographic Research* Special Collection 2: 11-44.
- European Commission (2011) *The 2012 Ageing Report: Underlying Assumptions and Projection Methodologies.* Joint Report prepared by the European Commission (DG ECFIN) and the Economic Policy Committee (AWG). European Economy 4/2011.
- EUROPOP2010 *http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Population_projections*
- European Commission (2008) *Demographic challenges for European regions*. Background Document to Commission Staff Working Document Sec(2008), Directorate General For Regional Policy, Brussels.
- Gerőhazi E., J. Hegedues, H. Szemző, I. Tosics, K. Tomay, L. Gere (2011) *The impact of European demographic trends on regional and urban development.* Synthesis report. Metropolitan Research Institute, VÁTI: Budapest.
- Grasland C., R. Ysebaert, B. Corminboeuf, N. Gaubert, N. Lambert, I. Salmon, M. Baron, S. Baudet-Michel, E. Ducom, D. Rivière, C. Schmoll, C. Zanin, J. Gensel, J-M. Vincent, C. Plumejeaud, G. Van Hamme, E. Holm, M. Strömgren, P. Coppola, A. Salaris, O. Groza, I. Muntele, G. Turcanasu and O. Stoleriu (2008) *Shrinking regions: a paradigm shift in demography and territorial development*. European Parliament's Committee on Regional Development. IP/B/REGI/IC/2007-044.
- Gesano G., and F. Heins with A. Naldini (2008) Background paper on demographic challenge. A report to the Directorate-General for Regional Policy Unit Conception, forward studies, impact assessment. IRPPS-CNR, ISMERI Europa, RomaESPON project 1.1.4: *The spatial effects of demographic trends and migration*. Final Report.
- ESPON project 3.2*: Spatial Scenarios and Orientations in relation to the ESDP and Cohesion Policy.* Final Report. October 2006.

- De Beer J., N. van der Gaag, R. van der Erf, R. Bauer, H. Fassmann, D. Kupiszewska, M. Kupiszewski, P. Rees, P. Boden, A. Dennett, J. Stillwell, A. de Jong, M. ter Veer, J. Metzger, J. Roto, L. van Well, F. Heins, C. Bonifazi, G. Gesano (2010) *DEMIFER. Demographic and Migratory Flows affecting European Regions and Cities*. Draft Final Report. Applied Research Project 2013/1/3. ESPON.
- Kupiszewski M., D. Kupiszewska (2010) *Reference scenarios. Report on Deliverable 5. DEMIFER. Demographic and Migratory Flows affecting European Regions and Cities.* Applied Research Project 2013/1/3. ESPON.
- Rees P., P. Boden, A. Dennett, J. Stillwell, M. Jasińska, A. de Jong, M. ter Veer, M. Kupiszewski, D. Kupiszewska (2010) *Regional population dynamics: a report assessing the effects of demographic developments on regional competitiveness and cohesion. Report on Deliverable 7. DEMIFER. Demographic and Migratory Flows affecting European Regions and Cities.* Applied Research Project 2013/1/3. ESPON.
- Rees, P. H., Kupiszewski, M., Eyre, H., Wilson, T., and Durham, H. (1999). *The evaluation of regional population projections for the European Union*. Research report for the ERDF Study 97/00/74/018. University of Leeds, Leeds

Economy

Key institutions

- European Commission, DG Ecfin *http://ec.europa.eu/economy_finance/index_en.htm*
- European Central Bank *http://www.ecb.int/home/html/index.en.html*
- European Investment Bank *http://www.eib.org/*
- International Monetary Fund *http://www.imf.org/external/index.htm*
- World Bank *http://www.worldbank.org/*
- OECD *http://www.oecd.org/home/0,2987,en_2649_201185_1_1_1_1_1,00.html*
- Eurostat *http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/*
- OECD regional database *http://www.oecd.org/topicstatsportal/0,3398,en_2825_497132_1_1_1_1_1,00.html*
- WTO *http://www.wto.org/*
- UNCTAD *http://www.unctad.org/Templates/StartPage.asp?intItemID=2068*

Key reference documents

- European Commission (2010) *Convergence report 2010* (DG-Ecfin)
- European Commission (2011) *European Business Cycle Indicators* (quarterly publication)
- European Commission (2011) *European Economic Forecast* - Autumn 2011

- European Commission (2011) *Labour market developments in Europe, 2011*
- European Commission (2011) *Product Market Review 2010-2011: The microeconomic roots of growth performance and trade competitiveness in the EU*
- European Commission (2011) *Public finances in EMU – 2011*
- European Commission (2011) *Quarterly report on the euro area* (quarterly publication)
- European Central Bank (2010) *Convergence report*
- European Central Bank (2011*) Annual Report 2010*
- Eurostat (2010) *Europe in figures - Eurostat yearbook 2010*
- Eurostat (2011) *Basic figures on the EU* (First, Second, Third, Fourth quarter 2011)
- Eurostat (2011) *Key Figures on Europe*
- IMF (2011) *World Economic Outlook World Economic Outlook (WEO) Tensions from the Two-Speed Recovery: Unemployment, Commodities, and Capital Flows*
- OECD (2009) *Economic Surveys European Union 2009*
- OECD (2009) *Regions at a Glance*
- OECD (2010) *Economic Surveys: Euro Area 2010* (December 2010)
- OECD (2011) *Economic Outlook*
- OECD (2011) *Government at a Glance 2011*
- OECD (2011) *Regions and Innovation Policy*
- OECD (2011) *OECD Regional Outlook 2011 Building Resilient Regions for Stronger Economies* (under embargo up to 5 December 2011)
- UNCTAD (2011) *Information Economy Report 2011*
- UNCTAD (2011) *World Investment Report Non-Equity Modes of International Production and Development*
- UNCTAD (2011)*Trade and Development Report, 2011, Post-crisis Policy Challenges in the World Economy*
- World Bank (2011) *Global Economic Prospects—Winter 2011: Navigating Strong Currents*
- WTO (2011) *International Trade Statistics 2011*
- WTO (2011) *World And Regional Export Profiles 2010*
- WTO (2011) *World trade report: The WTO and preferential trade agreements From co-existence to coherence*
- WTO/UNCTAD (oct2011) *Report on G-20 Trade Measures* (May to Mid-October 2011)

Technology

Key institutions

- Community Research and Development Information Service (CORDIS) *http://cordis.europa.eu/home_en.html*
- DG Energy (European Commission) *http://ec.europa.eu/energy/*
- DG Enterprise (European Commission) *http://ec.europa.eu/enterprise/*
- DG Environment (European Commission) *http://ec.europa.eu/environment/*
- DG Research (European Commission) *http://ec.europa.eu/research/*
- DG Transport and Mobility (European Commission) *http://ec.europa.eu/transport/*
- DG Regio (European Commission) *http://ec.europa.eu/regional_policy/*
- Eco-Innovation Observatory *http://www.eco-innovation.eu*
- Environmental Technologies Action Plan (ETAP) *http://ec.europa.eu/environment/etap/index_en.htm*
- Europe 2020 Strategy *http://ec.europa.eu/europe2020/index_en.htm*
- Europe Innova *http://www.europe-innova.eu*
- European Cooperation in Science and Technology (COST) *http://www.cost.eu*
- European Foresight Monitoring Network (EFMN) *http://www.efmn.info/*
- European Techno-Economic Policy Support Network (ETEPS) *http://eteps.gopa-cartermill.com/*
- Eurostat *http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes*
- Horizon 2020 *http://ec.europa.eu/research/horizon2020/index_en.cfm*
- Innovation Union *http://ec.europa.eu/research/innovation-union/index_en.cfm*
- Institute for Prospective Technological Studies (IPTS) *http://ipts.jrc.ec.europa.eu/*
- Strategic Energy Technologies Information System (SETIS) *http://setis.ec.europa.eu*
- Smart 2020 *http://www.smart2020.org/*
- Transport Research Knowledge Centre (TRKC) *www.transport-research.info*

Key reference documents

- ESPON (2010) *First ESPON 2013 Synthesis Report New Evidence on Smart, Sustainable and Inclusive Territories*

- 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.
- Innobasque (2010). *ESPON ReRISK - Regions at Risk of Energy Poverty*. European Union.
- Labein-Tecnalia- Technology Centre (2013). *ESPON EU LUPA - European Land Use Patterns. European Union*.
- 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.
- TU Dortmund University (2011). *ESPON CLIMATE – Climate Change and Territorial Effects on Regions and Local Economies en Europe.* European Union.
- University of the Highlands and Islands (2010). *ESPON EDORA - European Development Opportunities in Rural Areas*. European Union.
- Brandes F. and Poel M. (2009), *Sectoral innovation foresight on aeronautics and space*, Europe INNOVA Initiative
- Braun, A., *Healthcare: Key Technologies for Europe*, EC Key Technologies Expert Group, 2005
- Braun, A., Grimm, V., Korte, S., Rijkers-Defrasne, S. & Wintjes, R. (2011), *Innovation and Industrial Policy*, ETEPS Study for European Parliament's Directorate A - Economic and Scientific Policy Department. European Parliament, Brussel, More information
- Bullis, K. (2009) *A zero-emissions city in the desert*, Technology Review, March-April 2009.
- Cachia, R. (2008), *Social Computing: the case Social networking*, IPTS Report, European Commission, forthcoming.
- Campbell, S. W., & Park, Y., J. (2008). Social Implications of Mobile Telephony: The Rise of Personal Communication Society. *Sociology Compass*, 2/2, 371-387.
- Castells, M. (2001). *The Internet galaxy: Reflections on the Internet, business, and* society. New York: Oxford University Press.
- Castells, M., Fernandez-Ardevol, M., Qiu, J. L., & Sey, A. (2007). Mobile communication and society: A global perspective. Cambridge: MIT Press.
- Cetron, M.J. (2009) *Timeline for the Future: Potential Developments and Likely Impacts*, World Future Society, USA.
- Climate Group on behalf of the Global eSustainability Initiative (GeSI) (2008) *SMART 2020: Enabling the low carbon economy in the information age*

- Coughlin, J. & Pope, J.(2008) Innovations in Health, Wellness & Aging-in-Place: Development of a Consumer-Centered Approach to Intelligent Home Services, *IEEE Engineering in Medicine & Biology*, July-August 2008, Volume: 27, Issue: 4, Pages: 47-52
- EC (2009) *A sustainable future for transport, Towards an integrated, technology-led and user-friendly system*
- European Commission (2010) *Critical raw materials for the EU,* Report of the Ad-hoc Working Group on defining critical raw materials (sub-group of the Raw Materials Supply Group chaired by the European Commission)
- European Commission (2011a) *Europe 2020 Flagship Initiative Innovation Union*
- European Commission (2011b) *Transport White Paper 2011: towards a competitive and resource efficient transport system*
- EFMN (2009).*Special issue on healthcare: Healthy ageing and the future of public healthcare systems*, EFMN Project
- Florida, R. (2002). *The Rise of the Creative Class: And How it's transforming work, leisure, community and everyday life*. New York: Perseus Book Group
- Freitas, R. A., (2009) Nanotechnology and Radically Extended Life Span, *Life Extension Magazine*, 15, January 2009,:80-85
- Furuto, A. (2011). *Dalian Aeropolis, the Balanced City / NDA Planning,* 11 Apr 2011, ArchDaily. Accessed 22 Nov 2011. <http://www.archdaily.com/126291>
- Gaggioli A., Vettorello M., Riva G. (2003). From Cyborgs to Cyberbodies: The Evolution of the Concept of Techno-Body in *Modern Medicine. PsychNology Journal*, 1(2), 75 – 86.
- Geelhaar, J., Eckardt, F., Rudolf, B., Zierold, S., Markert, M. (2010) (Eds.).*MediaCity: Interaction of Architecture, Media and Social Phenomena*. Bauhaus-Universität Weimar, Germany
- Geser, H (2011). Has tweeting become inevitable? Twitter's strategic role in the world of digital communication. *Sociology in Switzerland: Towards Cybersociety and Vireal Social Relations* 26, University of Zurich.
- Goodall, C. (2008) *Ten Technologies to Save the Planet*,. Green Profile: London
- Grübler, A. (1992) *Technology and global change: Land-use, past and present*, WP-92-2, International Institute for Applied Systems Analysis, Laxenburg, Austria
- Halal, W.E., Kull, M.D. & Leffmann, A., (1998). The George Washington University Forecast of Emerging Technologies: A Continuous Assessment of the Technology Revolution, *Technological Forecasting and Social Change*, 59(1), p.89-110.
- Haller, C.; Höffken, S.(2010) *New Communication Tools and eParticipation: Social Media in Urban Planning*. In: Schrenk, M. Popovich, V. Zeile, P., RealCORP 2010 15th International Conference, Vienna, Austria 18-20 May 2010. Vienna: CORP – Competence Center of Urban and Regional Planning.
- Horx, M. (2006) *How we will live: A Synthesis of Life in the Future*, Campus.

- Intergovernmental Panel on Climate Change (IPCC) (2007) *Fourth Assessment Report: Climate Change 2007.*
- Kurzweil, R. (2005) *The Singularity is near: when humans transcend biology*
- Madaleno, I.M. (2001) Cities of the Future: Urban Agriculture in the Third Millennium. In *Food, Nutrition and Agriculture*, 29, Rome: Food and Agriculture Organization of the United Nations (FAO), Italy, 14-21.
- McNeely, J.A. and S.J.. Scherr (2001). *Common Ground, Common Future: How Ecoagriculture can help feed the World and save the Environment,*. Washington, DC: Future Harvest and IUCN
- Misuraca, G. Broster, D. Centeno, C. Punie, Y. Lampathaki, F. Charalabidis, Y. Askounis, D. Osimo, D. Skuta, K. Bicking M.(2010).*Envisioning Digital Europe 2030: Scenarios for ICT in Future Governance and Policy Modelling,* JRC Scientific & Technical Reports, IPTS, European Commission
- NASA (2007) *NASA and the Next Generation Air Transportation System (NextGen)*, White Paper, 26 June 2007
- NICHES + Project (2011) *NICHES+ Study Tour Catalogue A Guide to Urban Transport Innovation*
- Nowicki, P, H. van Meijl, A Knierim, et al. (2006) Scenar 2020: Scenario study on the future of agriculture and the rural world, European Commission, Directorate General for Agriculture and Rural Development.
- OECD (2000), *Science, Technology, and Innovation in the New Economy: A. Policy Brief*. Paris, France
- OECD (2003), *ICT and Economic Growth: Evidence from OECD Countries, Industries and Firms*, France: Paris.
- Pew Internet Project A history of forecast. Forward 150-Back150, Elon University School of Communications (2009).
- Sassen, Saskia. (2011) Talking Back to Your Intelligent City. McKinsey & Company
- Sigrist S, Varnholt B, Achermann S, Folkers G (eds). 2008. Mind the Future: Kompendium für Gegenwartstrends. Zürich
- TechCast (2009), Tech Strategic Breakthroughs and forecasts
- Thisse, J.F.(2009), How Transport Costs Shape the Spatial Pattern of Economic. Activity, OECD/ITF Joint Transport Research Centre Discussion Papers No 2009/13, Paris:
- Universität Siegen (2010). Social Impact of ICT. Final Report D7.1 of the Study on the Social Impact of ICT. Siegen: Universität Siegen.
- Wintjes, R. & Hollanders, H. (2010) Regional impact of technological change in 2020; Synthesis Report, DG Regional Policy of European Commission, Brussels
- Žižek, S. (2010) *Living in the end times*. Verso. London

Transport

Key institutions

- European Commission, DG Mobility and Transport. B-1049 Brussels. Rue J.-A. Demot, 24-28, B–1040 Brussels. *http://ec.europa.eu/dgs/transport.*
- International Transport Forum. 2 rue André Pascal, F-75775 Paris Cedex 16, France. *http://www.internationaltransportforum.org/*
- European Commission, Joint Research Centre, Institute for Prospective Technological Studies (IPTS). Calle Inca Garcilaso, 3, E-41092 Sevilla, Spain. *http://ipts.jrc.ec.europa.eu/*

Key reference documents

- Bröcker, J., Capello, R., Lundqvist, L., Meyer, R., Rouwendal, J., Schneekloth, N., Spairani, A., Spangenberg, M., Spiekermann, K., van Vuuren, D., Vickerman, R. Wegener, M. (2005): Territorial Impacts of EU Transport and TEN Policies. Final Report of ESPON 2.1.1. Kiel: Christian-Albrechts-Universität Kiel.
  http://www.espon.eu/export/sites/default/Documents/Projects/ESPON2006Projects/PolicyImpactProjects/TransportPolicyImpact/fr-2.1.1_revised.pdf
- European Commission (2004): The Trans-European Transport Networks "TEN-T". Overview & Projects*. http://europa.eu.int/comm/ten/transport/index-en.htm*. Brussels: DG TREN. Council of 23 July 1996 on the Community guidelines for the development of the trans-European transport networks. *Official Journal of the European Communities* 39, L 228, 9 September 1996, 1-104.
- European Commission (2011): Proposal for a Regulation of the European Parliament and of the Council on Union guidelines for the development of the trans-European transport network. COM(2011) 650/2. *http://ec.europa.eu/transport/infrastructure/connecting/revision-t_en.htm*
- European Commission (2011): EU Transport in Figures 2011. Luxembourg: Publications Office of the European Union.
  http://ec.europa.eu/transport/publications/statistics/doc/2011/pocketbook2011.pdf
- European Commission, DG Mobility and Transport (2009): A Sustainable Future for Transport. Towards an Integrated, Technology-led and User-friendly System. Luxembourg: Office of Official Publications of the EU.
  http://ec.europa.eu/transport/publications/doc/2009_future_of_transport_en.pdf
- European Commission, DG Mobility and Transport (2011): Transport White Paper 2011. Roadmap to a Single European Transport Area - Towards a Competitive and Resource Efficient Transport System. Luxembourg: Office of Official Publications of the EU.
  *http://ec.europa.eu/transport/strategies/2011_white_paper_en.htm^*
- European Commission, DG Regional Policy (1999): ESDP: European Spatial Development Perspective: Towards a Balanced and Sustainable Development of the Territory of the European Union. Luxembourg: Office for Official Publications of the European Communities.
  http://ec.europa.eu/regional_policy/sources/docoffic/official/reports/pdf/sum_en.pdf

- European Environmental Agency (2011) Laying the foundations for greener transport — TERM 2011: transport indicators tracking progress towards environmental targets in Europe. EEA Report 7/2011. Luxembourg: Office for Official Publications of the European Union. *http://www.eea.europa.eu/publications/foundations-for-greener-transport/at_download/file*

- European Foundation for the Improvement of Living and Working Conditions (2008): Trends and drivers of change in the EU transport and logistics sector: Scenarios. Taastrup, DK: Danish Technological Institute *http://www.et2050.eu/Et2050_Library/attachments/001_Trends_and_drivers_of_change_in_the_EU.pdf*

- Institut für Mobilitätsforschung (2010): Zukunft der Mobilität - Szenarien für das Jahr 2030. Zweite Fortschreibung. ifmo-studien. München: ifmo. *http://www.ifmo.de/basif/pdf/publikationen/2010/100531_Szenarien_2030.pdf*

- Petersen, M.S., Enei, R., Hansen, C.O., Larrea, E., Obisco, O., Sessa, C., Timms, P.M., Ulied, A. (2009): *Report on Transport Scenarios with a 20 and 40 year Horizon, Final report*,

- Copenhagen: Tetraplan A/S. *http://www.et2050.eu/Et2050_Library/attachments/2009_02_transvisions_report.pdf*

- Spiekermann, K., Wegener, M., Kveton, V., Marada, M., Schürmann, C., Biosca, O., Ulied Segui, A., Antikainen, H., Kotavaara, O., Rusanen, J., Bielanska, D., Fiorello, D., Komornicki, T., Rosik, P. (2011): Transport Accessibility at Regional/Local Scale and Patterns in Europe. Interim Report of ESPON TRACC. Dortmund: Spiekermann & Wegener Urban and Regional Research.*http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/TRACC/TRACC_Interim_Report_210211.pdf*

- TINA Secretariat (1999): *TINA Transport Infrastructure Needs Assessment. Identification of the Network Components for a Future Trans-European Transport Network in Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia.* Final Report. Vienna: TINA Secretariat.

- Wegener, M., Eskelinen, H., Fürst, F., Schürmann, C., Spiekermann, K. (2001): Criteria for the Spatial Differentiation of the EU Territory: Geographical Position. Study Programme on European Spatial Planning. Forschungen 102.2. Bonn: Federal Office for Building and Regional Planning. *http://www.bbsr.bund.de/cln_016/nn_23494/BBSR/EN/Publications/BMVBS/Forschungen/1999__2006/102__2index.html*

Energy

Key institutions

- European Commission, DG Energy *http://ec.europa.eu/energy/index_en.htm*

- International Energy Agency (IEA) *http://www.iea.org*

- World Energy Council (WEC) *http://www.worldenergy.org/*

- European Environment Agency , Copenhagen, Denmark, *http://www.eea.europa.eu/*

Key reference documents

- IEA (2011) *Key World Energy Statistics 2011* -
- IEA (2010) *World Energy Outlook 2010*
- DG Energy - European Commission.(2011) *Key figures*
- Likvern, R.; (2010) *Europe and natural gas - Are tough choices ahead?* published in The Oil Drum: Europe, August 3 2010
- EEA (2008) *Estimating the environmentally compatible bioenergy potential from agriculture*
- EEA (2009) *Europe's onshore and offshore wind energy potential. An assessment of environmental and economic constraints*
- Weiss W, Biermayr P, Potential of Solar Thermal in Europe. Report within the framework of the EU-funded project RESTMAC, ESTIF, Brussels 2010.
- Menna, P., Gambi, R., Howes,T., Gillett,W., Tondi,G., Belloni,F., Fantechi,S., Getsiou,M., De Bonis, P .(2011) *European Photovoltaic Actions and Programmes 2011*, European Commission, Executive Agency for Competitiveness and Innovation, Brussels
- Deutsche Bank Research (2010) *Hydropower in Europe The Alps, Scandinavia and South-eastern Europe – rich in opportunities*
- ESPON RERISK (2010) *Final Report*.
- Monzon, A., Nuijten, A., (2006) *Scenarios for the transport system and energy supply and their potential effects STEPs.* 6th Framework Programme.
- Kempen, M., Kraenzlein, T (2008) *Energy use in agriculture: a modeling approach to evaluate energy reduction policies*., paper presented at 107th seminar of European Association, Jan. 29–Feb. 1, Seville, Spain
- Communication of the Commission (2010) *Energy 2020. A strategy for competitive, sustainable and secure energy*, November 10 2010
- Communication of the Commission (2011) *The EU Energy Policy: Engaging with Partners beyond Our Borders*". COM(2011) 539 final.
- WEC (2007) *Deciding the future: energy policy scenarios to 2050*
- Aleklett et al (2009) *The Peak of the Oil Age - analyzing the world oil production Reference Scenario in World Energy Outlook 2008*, Energy Policy, Volume 38, Issue 3, March 2010, Pages 1398-1414
- European Commission (2007) *EU-27 Energy Baseline Scenario to 2030*
- European Commission (2006): *World Energy Technology Outlook – 2050 .WETO – H2*. European Commission (EC), Directorate-General for Research, Brussels.

Environment

Key institutions

- European Environment Agency , Copenhagen, Denmark, *http://www.eea.europa.eu/*
- Centre de Prospective et de Veille Scientifique (CPVS) France
- Institute for Social Ecology Institute of Social Ecology, Austria *http://www.uni-klu.ac.at/socec/inhalt/1.htm*
- Wuppertal Institute for Climate, Environment and Energy, Germany *http://www.wupperinst.org*
- Institute of Environmental Science and Technology (ICTA), Spain *http://icta.uab.cat*
- Science and Technology Policy Research (SPRU) UK. *http://www.sussex.ac.uk/spru/*
- Centre for Social and Economic Research on the Global Environment, UK. *http://www.cserge.ac.uk*
- Sustainable Europe Research Center, Austria *http://seri.at/*
- Danish Technology Institute, Denmark *http://www.dti.dk/*
- Alterra, Netherlands *http://www.alterra.wur.nl/UK/*
- Center for Environmental and Sustainability Research (CENSE), Portugal *http://cense.fct.unl.pt/*
- Charles University Environment Center (CUEC), Czech Republic *http://www.cuni.cz/COZPENG-1.html*
- Helmholtz Centre for Environmental Research (UFZ), Germany *http://www.ufz.de*
- Georges Lemaître Centre for Earth and Climate Research, Belgium *http://www.uclouvain.be/en-teclim.html*
- Stockholm Resilience Center, Sweden *http://www.stockholmresilience.org/*
- Observatoire Francais des Conjonctures Economiques (OFCE), France *http://www.ofce.sciences-po.fr/*
- Dutch Research Institute for Transitions (DRIFT), Netherlands *http://www.drift.eur.nl/*
- Institute for European Environmental Policy, Belgium *http://www.ieep.eu/*

Key reference documents

- European Environment Agency (2009), *Looking back on looking forward: a review of evaluative scenario littérature.*
- European Environment Agency (2009), *Prospective Environmental analysis of Land Use Development in Europe.*
- European Environment Agency (2010), *The European Environment 2010. State-of-the-environment. Assessment of global megatrends*. Copenhagen.

- European Environment Agency (2010) *Catalogue of scenario studies — Knowledge base for Forward-Looking Information and Services*. Copenhagen.
- European Environment Agency (2011) *BLOSSOM — Bridging long-term scenario and strategy analysis: organisation and methods. A cross-country analysis*.
- European Commission (2011), *A resource-efficient Europe – Flagship initiative under the Europe 2020*.
- European Commission (2010), *Investing in Europe's Future. Fifth Report on Economic, Social and Territorial Cohesion*.
- European Commission (2009) *Climate change impacts in Europe. Final report of the PESETA research project*.
- United Nations Environment Programme (2007), *Global Environment Outlook GEO4 Environment for development*.
- United Nations Environment Programme (2005), *Human Wellbeing & Ecosystems*. Island Press.
- International Energy Agency (2011), *World Energy Outlook 2011*. Vienna.
- OECD (2008), *OECD Environmental Outlook to 2030*. Paris.
- OECD (2011), *Towards Green Growth*. Paris.
- World Business Council for Sustainable Development (2011), *Vision 2050: The new agenda for business*. Geneva.
- Tucker, G., et al., 2009, *Scenarios and models for exploring future trends of biodiversity and ecosystem services changes* (Interim report), Institute for European Environmental Policy.
- John Muir Award (2010) *Views from 2050 Contributions of Nature, Landscape & Biodiversity to a low carbon society*.
- Secretariat of the Convention on Biological Diversity (2010), *Biodiversity scenarios: Projections of 21st century change in biodiversity.*
- PricesWaterhouse Coopers, (2006), *The World in 2050. Can rapid global growth be reconciled with moving to a low carbon economy?*
- Millennium Ecosystem Assessment (2005), *Millennium Ecosystem Assessment Scenarios 2000-2050*
- Alcamo, J., J.M. Moreno, B. Nováky, M. Bindi, R. Corobov, R.J.N. Devoy, C. Giannakopoulos, E. Martin, J.E. Olesen, A. Shvidenko, (2007): Europe. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change,* M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 541-580

Governance

Key institutions

- European Commission - Dg Regio *http://ec.europa.eu/regional_policy/index_en.cfm*

Key reference documents

- European Commission (2001) *White Paper on European Governance*, COM (2001) 428 final
- European Commission (2005) *The Territorial State and Perspectives of the European Union, Towards a Stronger European Territorial Cohesion in Light of the Lisbon and Gothenburg Ambitions*. A background document for the Territorial Agenda of the European Union. May 2005, Luxemburg
- European Commission (2007) *Territorial Agenda of the European Union. Towards a More Competitive and Sustainable Europe of Diverse Regions*. 24/25 May, Leipzig
- European Commission (2008) *Green Paper on Territorial Cohesion*
- European Commission (2009) *Territorial Cohesion: Unleashing the Territorial Potential,* Background Document to the Conference on Cohesion Policy and Territorial Development: Make Use of the Territorial Potential! 10-11 December 2009, Kiruna, Sweden
- European Commission (2010) *Europe 2020: A strategy for smart, sustainable and inclusive growth*. EC, Brussels
- European Commission (2010) *Investing in Europe's future: Fifth report on economic, social and territorial cohesion*. European Commission, November 2010, Brussels
- European Commission (2011) *Evaluation Report of the Territorial Agenda of the European Union*
- European Commission (2011) *Territorial Agenda of the European Union 2020*
- Barca, Fabrizio (2009) *An Agenda for a Reformed Cohesion Policy: A Place Based Approach to Meeting European Union Challenges and Expectations*, Brussels.
- Davoudi, S., N. Evans, F. Governa and M. Santangelo (2008) *Territorial Governance in the Making. Approaches, Methodologies, Practices*, in: Boletin de la A.G.E.N, No 46 - 2008
- Dühr, S., Colomb, C. & Nadin, V. (2010) *European Spatial Planning and Territorial Cooperation*, Routledge
- Faludi, A. (2010). *Cohesion, coherence, cooperation: European spatial planning coming of age?*, London and New York, Routledge.
- Gualini, E. (2006) *The Rescaling of Governance in Europe: New Spatial and Institutional Rationales*, European Planning Studies, 14(7), 881-904.
- Janin Rivolin, U. (2010) *EU territorial governance: learning from institutional progress*, Refereed article, April, 2010, European Journal of Spatial Development.

- Stead, D., B.Waterhout (2008). *The application of the ESDP and its influences on European territorial governance*, in: disP 172: 21-34
- Zonneveld, W., Janssen-Janssen. L., Vries, de J. & Waterhout, B. (eds) (2007), *European Territorial Governance*, Routledge, London

12. ANNEX 2 - Description of models - SPQR forms

12.1 MULTIPOLES

NAME	MULTIPOLES
BACKGROUND	
Last update	2010
Developer	CEFMR, based on previous MULTIPOLES developments.
Developed in the project	Various over the period 1996-2010
Ownership	CEFMR co-financed by various projects/institutions. Not commercialised.
Main applications	MULTIPOLES is a cohort-component, hierarchical multiregional supranational population dynamics model. It is used for projections, simulations and forecasts of complex hierarchical multiregional, multi-country population systems; for analysing impact of various scenarios concerning migration, fertility, mortality and economic activity on population and labour force size and structure. Continuously developed since 1996 to include new options, it has been applied in a number of projects, most recently in DEMIFER. It was specifically designed to model the impact of various categories of migration: internal, international within the system (e.g. within EU) and from outside of the modelled system. It can also be used for modelling multistate population of a single country (e.g. population by nationality).
Documents of reference	DEMIFER Deliverable 4 (http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/DEMIFER/FinalReport/DEMIFER_Deliverable_D4_final.pdf)
Scientific papers	M. Kupiszewski and D. Kupiszewska (2011) MULTIPOLES: A Revised Multiregional Model for Improved Capture of International Migration, [in:] J. Stillwell and M. Clarke (eds) *Population Dynamics and Projection Methods*, Springer: 41-60. J. Bijak, D. Kupiszewska and M. Kupiszewski (2008) Replacement Migration Revisited: Simulations of the Effects of Selected Population and Labour Market Strategies for the Ageing Europe, 2002–2052. *Population Research and Policy Review*, vol. 27, nr 3: 321-342. J. Bijak, D. Kupiszewska, M. Kupiszewski, K. Saczuk and A. Kicinger (2007), Population and labour force projections for 27 European countries, 2002-2052: impact of international migration on population ageing. *European Journal of Population*, vol. 23, no 1: 1-31.
Running time	Varied, depending on the number of regions and projection periods. In DEMIFER: around 15 min per scenario in the fast mode, 1 hour in the development/testing mode.
Size of total results	Varied, depending on the number of regions and projection periods. In DEMIFER: 6-12 MB for the main text files plus 400-800 MB for the auxiliary text files per scenario. Additional space needed for Excel and map files.
Data exchange format	Results can be provided as tsv (tab-delimited), csv (comma- or semicolon-delimited) or txt (space-delimited) text files
Software platform	Salford Fortan; compiled to run under MS Windows. Input data can be prepared using any spreadsheet, e.g Excel.
SAMPLES	
Reference data from	In DEMIFER: Mortality data 2003-2006, fertility data 2004-2005, internal migration data 2004-2006 (or earlier), international migration matrix 2002-2006, immigration and emigration 2001-2006 (years differed between the countries), economic activity rates 2004-2005
Data used for calibration	Not applicable
Data inputs	Initial (start) population; Scenarios for future fertility, mortality, internal migration, international

	migration within Europe, extra-Europe migration and economic activity; Typology of regions (optional).
Main data sources	EUROSTAT, National Statistical Offices, MIMOSA project, DEMIFER estimates
P O S T U L A T E S	
Forecast reliable up to	25 years (simulations possible up to 100 years ahead)
Geographic coverage	EU27 + EFTA
Adm. desegregation	NUTS2
Thematic scope	Population and labour force
Theory	Cohort-component, female-dominant hierarchical multiregional supranational model, building on the ideas of the multiregional models developed by A. Rogers, F. Willekens and P. Rees. MULTIPOLES specifically uses Rees' concept of multiregional hierarchical population dynamics models.
Q U E R I E S	
Population and labour force development	How will the population size and structure of the countries and regions of a population system (e.g. Europe) change under the assumed trajectories of internal and international migration, mortality and fertility? How will the labour force size and structure change under these trajectories and assumed economic activity rates? How much does migration (internal and international) contribute to regional population growth?
Impact analysis	How certain population and labour market policies impact population and labour market development? How population would develop under various immigration policies? Can migration be a remedy to population aging? Which of the policies: focusing on fertility, immigration or economic activity (or their combination) could be the most efficient response to population aging?
R E S U L T S (Main families of indicators)	
Population	By region, 5-year age group and sex By country, 5-year age group and sex Total population by region type and sex
Labour force	By region, 5-year age group and sex By country, 5-year age group and sex By region, broad age group (15-25, 25-40, 40-65, 65+) and sex By country, broad age group (15-25, 25-40, 40-65, 65+) and sex
Dependency ratios	4 dependency ratios: ODR, EODR, LMDR and VODR: by country, by region type, by region (see model documentation for the dependency ratios definitions)
Population accounts	By region and by country, for each sex and 5-year projection step: births, deaths, natural increase, internal in-migration, internal out-migration, immigration within Europe, emigration within Europe, immigration from outside Europe, emigration outside Europe, net migration, total population change
Life expectancy at birth	By region, sex and 5-year projection step
Crude birth rates and crude death rates	By region and by country, for each 5-year projection step
Results are generated as text files (comma-, tab- or space-delimited). Tables, graphs and maps are produced externally. MapInfo is used to produce maps at CEFMR.	
Typical graphic output (maps, diagrams)	Graphs showing population and labour force development in time (in 5-year steps). Age pyramids (by 5-year age groups). Maps with population distribution pattern (NUTS2 level). Maps illustrating selected indicators (e.g. population change, impact of migration, dependency ratios by region etc.)

ADAPTATIONS PLANED IN THE FRAME OF ET2050	
Sample	Investigation of the availability of data for the accession countries and neighbouring countries. Verification and updating the baseline data for the ESPON countries. Coding ET2050 scenarios.
Postulates	Linking MULTIPOLES with other ET2050 models
Questions	How population and labour force size and structure will develop under various ET2050 scenarios?
Results	Calculation of indicators needed for TIA and other ET2050 tasks.
INTERACTION WITH OTHER ET2050 MODELS	
Potential inputs from	None of the other ET2050 models
Can provide outputs for	(a) for other models - Population forecasts for MASST (economic model), MOSAIC (transport model) and Metronamica (land-use model) (b) for the meta analysis: SASI (common output indicators: population, migration)
DATA IN NON EU27 COUNTRIES	
ESPON space countries *(Iceland, Norway, Switzerland and Lichtenstein)*	Data (or estimates) available for all ESPON partner countries, including estimates of international migration matrix 2002-2007. More recent data available for fertility and mortality. Consistent estimates of international migration since 2008 not available.
Candidate and potential candidate countries (*Western Balkans and Turkey*)	Some fertility and mortality data available from Eurostat or NSIs websites for all the countries (except age-specific mortality for Albania and Bosnia&Herzegovina), but no NUT2 (or equivalent) data for Serbia and B&H. Consistent estimates of international migration not available.
Neighbouring countries (*Belarus, Moldova, Russia, Ukraine, Algeria, Egypt, Morocco, Tunisia*)	Consistent estimates of international migration not available. Fertility and mortality data (on national or regional) level available from NSIs' websites for Belarus, Moldova, Russia and Ukraine (except mortality by sex and age for Ukraine). Northern Africa: Some data available from NSIs' websites: fertility and mortality for Algeria, fertility for Tunisia; no data for Morocco and Egypt.

12.2 **MASST**

MODEL	MASST
BACKGROUND	
Last update	2010
Developer	BEST – Politecnico di Milano
Developed in the project	ESPON 3.2, ESPON SPAN-3, plus other non-Espon projects
Ownership	BEST – Politecnico di Milano
Main applications	Scenarios of regional economic growth in the medium-long run under different scenarial bifurcations. Other outputs available.
Documents of reference	ESPON projects reports (www.espon.eu) Capello, R., Camagni, R., Chizzolini, B. and Fratesi, U. (2008) Modelling Regional Scenarios for the Enlarged Europe: European Competitiveness and Global Strategies, Springer-Verlag, Berlin, ISBN 978-3-540-74736-9. Capello R., Fratesi U. and Resmini L. (2011), Globalisation and Regional Growth in Europe: Past Trends and Scenarios, Springer Verlag, Berlin, ISBN: 978-3-642-19250-0.
Running time	15 minutes to run, about 1 day to input the scenarial assumptions.
Size of total results	not applicable
Data exchange format	Results (produced in Stata) can be provided in Excel format
Software platform	STATA (*tutorial and guide currently not available*)
SAMPLES	
Reference data from	Currently 2005
Data used for calibration	not applicable
Data inputs	At national level, insert hypotheses on: – Real interest rates – Unit labour costs – FDI – Exchange rates – Inflation rate – US & Japan growth – BRICs growth – Public Expenditure – Trend in import – Trend in investments – Trend in consumptions – Trend in exports At regional level, insert hypotheses on: – Changes in location of sectors – Human resources in science and technology – Infrastructure endowment – Energy consumption – Functions performed by the regions in the labour market – Degree of trust – Unemployment rates – Birth rates – Death rates – Energy consumption – Energy prices European migration levels
Main data sources	EUROSTAT and ESPON databases.

P O S T U L A T E S	
Forecast reliable up to	Up to 2030
Geographic coverage	EU-27 (except remote islands and French Overseas departments). Can be extended to the non-EU Espon Countries only by spatial extrapolation
Adm. desegregation	NUTS2
Thematic scope	Scenarios
Theory of MASST	See: Capello R (2007) A forecasting territorial model of regional growth: the MASST model. Ann Reg Sci 41(4):753–787. Capello, R., Camagni, R., Chizzolini, B. and Fratesi, U. (2008) Modelling Regional Scenarios for the Enlarged Europe: European Competitiveness and Global Strategies, Springer-Verlag, Berlin, ISBN 978-3-540-74736-9.
Q U E R I E S	
Impacts of scenarial assumptions concerning:	European Strategies
	Globalization patterns (including sectoral growth)
	Socio-economic transformations Macroeconomic Territorial
R E S U L T S (Main families of indicators)	
Economy	GDP (total and per capita) at: – National level – NUTS2 level Employment growth – Manufacturing – Services Growth spillovers
Society	Population growth (at National and NUTS2 level) Regional Migration (3 age classes)
ADAPTATIONS PLANNED IN THE FRAME OF ET2050	
Sample	Update with GDP data up to 2010 (national model) and 2009 (regional model)
Update of national model	Covering data up to the economic crisis, planned in a first phase
Update of regional model	Covering data up to the economic crisis, planned in a second phase due to the delayed availability of regional data.
Upgrades of model	Ability to better analyse the impact of cycles and crises Ability to better include the effects of regional innovation thanks to recently obtained data on the knowledge economy Both upgrades will be coming with the update of the regional model
INTERACTION WITH OTHER ET2050 MODELS	
Potential inputs from	MULTIPOLES fertility and mortality forecasts MOSAIC infrastructure and congestion forecasts
Can provide outputs to	GDP at NUTS2 level to MULTIPOLES, MOSAIC, METRONAMICA
DATA IN NON EU27 COUNTRIES	
Methodological premise	The MASST model is and will remain estimated on the 27 EU countries because of two main scientific reasons: 1. The econometric estimation of structural relationships requires a significant degree of homogeneity between the various countries, otherwise the parameters obtained are spurious, and the EU27

	already has a non-negligible degree of statistical heterogeneity between Old15 and New12 member countries; 2. The estimation on all regions of a large number of countries imposes limitations in the number of observations since only regions with data for all variables can be used in the estimations. Adding countries and regions decreases the depth of the model in terms of variables which can be used and hence reduces its explicative power. However, the results of the MASST model can be extended beyond its estimation sample through an ad-hoc procedure, i.e. one of spatial extrapolation as developed and used within ESPON 3.2, provided a minimum number of regional characteristics are available
ESPON space countries *(Iceland, Norway, Switzerland and Lichtenstein)*	Data for the 4 non-EU ESPON countries should normally be available in sufficient detail to allow the spatial extrapolation procedure to be run and results presented.
Candidate and potential candidate countries (*Western Balkans and Turkey*)	The availability of enough regional data for these countries will be explored once the new estimations become available (since the variables included in the MASST model will likely expand with re-estimation); provided there are enough data, also these countries will be included in the scenarios through spatial extrapolation.
Neighbouring countries (*Belarus, Moldova, Russia, Ukraine, Algeria, Egypt, Morocco, Tunisia*)	It is unlikely that sufficiently detailed data at regional level for these countries will be available, but their presence will be explored once the MASST is re-estimated and, whenever possible, also these countries will be included through spatial extrapolation.

12.3 **MOSAIC**

NAME	**MOSAIC**
BACKGROUND	
Last update	2011
Developer	MCRIT based on TT previous developments.
Developed in the project	7th EU Framework Programme (INTERCONNECT)
Ownership	MCRIT co-financed by EC. No commercialised.
Main applications	TT is the best state-of-the-practice transport-oriented forecast model available at EU level. DGMOVE has required the application of TRANSTOOL model in all studies carried out during the last years in the process to redefine the Transeuropean transport networks and the new Transport White Book 2010-2020. TT model is being continuously improved in different projects of the 7th European Framework Programme. In the INTERCONNECT (2010) MCRIT developed the MOSAIC model, based on TT trip generation and distribution results, being also applied in ORIGAMI (2011-2012) to assess four different transport policy-scenarios for 2030.
Documents of reference	INTERCONNECT Final Report (www.interconnect-project.eu)
Scientific papers	TRA2012 "*Impacts of improving interconnectivity between local and long-distance transport networks in Europe: Conclusions from the modelling activities in the INTERCONNECT 7th EU Framework Programme project*"
Running time	12 hours
Size of total results	16 Gb
Data exchange format	Results can be provided in MDB format
Software platform	BridgesNIS (proprietary software programmed in C++ by MCRIT) linked to most GIS packages, specially Geomedia Intergraph. Tutorial and guide under development.
SAMPLES	
Reference data from	2005
Data used for calibration	MOSAIC internal parameters are calibrated with TT 2005.
Data inputs	Multimodal Transport Networks (25.000 links) including detailed intermodal exchanges and proxy to long-distance passenger services. Information restricted.
	TENCONNECT socioeconomic, trip generation and distribution databases 2005-2020-2030 produced by TRANSTOOLS for baseline scenarios at NUTS3 level. Publically available information.
POSTULATES	
Forecast reliable up to	2030
Geographic coverage	EU27 and neighbouring countries
Adm. desegregation	NUTS3
Thematic scope	Passengers (freight not included)
Theory of TT-MSAIC	Integrated modal split and assignment for passengers applied to TT trip distribution matrices
Theory of TRANSTOOLS (TT)	4-steps passenger and freight transport model see: http://energy.jrc.ec.europa.eu/transtools/

Q U E R I E S	
Transport supply-oriented policies	How infrastructure provision (new links and connections) will reduce traffic congestion?, induce modal shifts?, change energy consumptions and emissions?, accidents?, increase accessibility?
Transport market regulatory policies	How changes in prices for transport passenger services may reduce traffic congestion?, induce modal shifts?, change energy consumptions and emissions?
Technologic innovation	How changes on vehicle technologies may reduce traffic congestion?, induce modal shifts?, change energy consumptions and emissions?, accidents?
R E S U L T S (Main families of indicators)	
Transport endowment	Aggregated, by NUTS3, by mode
Infrastructure investment	Aggregated, by NUTS3, by mode
Costs of travelling	Between NUTS3 by trip purpose using optimal transport chains
Time of travelling	Between NUTS3 by trip purpose (business, leisure, visit)
Accessibility	Surface, people or activities (GDP) at a given distance or time or cost from a given place
Trips	Between NUTS3 by trip purpose (business, leisure, visit)
Modal shares	% trips between NUTS3 by trip purpose (business, leisure, visit)
Modal chains	% length or time or cost between NUTS3 by trip purpose (business, leisure, visit)
Traffic congestion	Hours/year of congestion on main roads
Emissions	CO_2 by network link, aggregated at NUTS3 or NUTS0
Typical graphic output (maps, diagrams)	Maps with traffics and congestion levels on transport links Accessibility maps displayed by 5x5 km2 cells Maps with patterns for NUTS3 Time lines for key indicators aggregated at different scales
ADAPTATIONS PLANED IN THE FRAME OF ET2050	
Sample	Update with TEN_T (foreseen Octobre 2011)
Postulates	Link to foresight metamodels to mode freight transport
Questions	- How changes in population, economic growth and travel behaviour may induce different mobility flows and patterns - future MOSAIC versions may provide trip Origin–Destination matrices for ET2050 alternative scenarios. - The socioeconomic profitability of new infrastructure investments.
Results	Calculation of a proxy for CBA for infrastructure projects
INTERACTION WITH OTHER ET2050 MODELS	
Potential inputs from	MULTIPOLES population forecasts MASST GDP economic forecasts METRONOMICA (to be discussed) SASI population, GDP, transport networks
Can provide outputs for	Transport outputs to the SASI Model
DATA IN NON EU27 COUNTRIES	
ESPON space countries	Networks and travel data available, at a lower resolution than in

(Iceland, Norway, Switzerland and Lichtenstein)	EU27 countries. Data available for all ESPON partner countries
Accession countries *(Western Balkans and Turkey)*	Networks and travel data available, at a lower resolution than in EU27 countries. Data available for Western Balkans and Turkey
Neighbouring countries	Networks and travel data available, at a lower resolution than in EU27 countries. Data available for Ukraine, Belarus, Russia. No data available for Northern Africa nor Middle East.

12.4 METRONAMICA

NAME	METRONAMICA
BACKGROUND	
Last update	2011
Developer	RIKS
Developed in the project	Developed in a series of research and consultancy projects (e.g. Xplorah, MOLAND, Environment Explorer, LUMOCAP (FP6)) as well as through internal funding at RIKS
Ownership	RIKS
Main applications	Metronamica is a generic state-of-the-art land use change model,that has been applied for areas ranging from cities to the European Union (EU 27). Applications include stand-alone versions as well as integrated systems that include the Metronamica land use model. RIKS applies Metronamica in-house but it is also sold under license agreement. Regarding the latter we train 3rd party users to use the system independently. This is use is for scenario studies, policy analysis as well as research projects. Metronamica is being improved continuously by dedicated product development as well as through enhancements required for project work. These improvements are scientific (making a better model), technical (making a more efficient model), user oriented (making the tools easier to use), or relevance oriented (developing tools and indicators that better reflect the needs of policy makers).
Documents of reference	RIKS (2011) Metronamica - Model descriptions. RIKS, Maastricht, the Netherlands, available through www.metronamica.nl
Scientific papers	Van Delden, H., Stuczynski,T., Ciaian, P., Paracchini, M.L., Hurkens, J., Lopatka, A., Shi,Y., Gomez Prieto, O., Calvo, S., Van Vliet, J., Vanhout, R. 2010. Integrated assessment of agricultural policies with dynamic land use change modelling. Ecological Modelling 221(18): 2153-2166. White, R., Engelen, G., Uljee, I., 1997. The use of constrained cellular automata for high-resolution modelling of urban land-use dynamics. Environment and Planning B: Planning and Design 24 (3), 323–343.
Running time	One to several minutes, depending on the size of the application and time span of the simulation
Size of total results	Depending on the selected output, about 50 MB per map of EU27 size
Data exchange format	Excel data, .asc raster maps, and .gif animations
Software platform	Metronamica is built within the Geonamica software environment..
SAMPLES	
Reference data from	2006 (start year of the application).
Data used for calibration	Corine Land Cover maps for 1990 and 2000 are used for calibration, Corine Land Cover for 2006 is used for validation.
Data inputs	Initial land use map, initial transport network plus updates during the scenario period (e.g. newly constructed roads), initial base data for physical suitability plus updates during the scenario

	period (e.g. based on climate change), initial spatial plans plus updates over time, regional totals for population and jobs (or GDP) for industry and services for each year of the simulation period.
Main data sources	Corine Land Cover Data, Natura 2000 Network, GISCO transport data base, population and job forecasts from other ET2050 project partners, suitability base maps (DEM). Data about spatial plans that are available can be introduced during the modelling work
P O S T U L A T E S	
Forecast reliable up to	30 years into the future, extendable to 50 (inevitably with an increase in uncertainty)
Geographic coverage	EU27 (limited by data availability: the Corine land cover database only includes data for EU27)
Adm. desegregation	NUTS2
Spatial resolution	Grid cells of 1km2
Thematic scope	Land use, and derived spatial indicators
Theory of Metronamica	Metronamica is a constrained cellular automata land use model
Q U E R I E S	
Land use outlooks	How will the current land use pattern evolve over time, given the current behaviour of spatial actors (land use classes)
Policy analysis	How will spatial policies (specifically spatial plans, such as natural protection or urban expansion plans) influence future land use dynamics?
Scenario studies	How will assumptions on changes in behaviour influence future land use dynamics? These assumptions can be model parameters or external input (such as population numbers or job employment figures per region).
R E S U L T S (Main families of indicators)	
Land use map	Land use maps with a resolution of 1km2 for the EU27 for 2030 and 2050
Land use animation	Land use animations with a resolution of 1km2 for the EU27 displaying yearly changes from 2006 to 2050
Indicator map(s)	Indicator maps with a resolution of 1km2 for the EU 27 for 2030 and 2050 (if required).
Indicator animation	Indicator animations with a resolution of 1km2 for the EU 27 displaying yearly changes from 2006 to 2050 (if required).
ADAPTATIONS PLANED IN THE FRAME OF ET2050	
Sample	Update initial land use with Corine land cover 2006 (was 2000)
Postulates	Insert baseline data into the simulation. This data includes population, jobs, possible extended with spatial plans, or infrastructural changes. Data for population and jobs per region will be provided by other partners through simulations with their respective models.
Questions	Insert scenario data into the simulation. This data includes population, jobs, possible extended with spatial plans, or infrastructural changes. Scenario data for population and jobs per region will be provided by other partners through simulations

	with their respective models.
Results	Implementation of one or more spatial indicators, when relevant for the project
INTERACTION WITH OTHER ET2050 MODELS	
Potential inputs from	MULTIPOLES, MASST and/or SASI: - Population per region: initial data and scenario projections (preferably annual data) - Jobs or GDP for industry and commercial activities per region: initial data and scenario projections (preferably annual data) There is potential to use transport and/or accessibility information from SASI or MOSAIC
Can provide outputs for	There is a potential to use land use data in MOSAIC
DATA IN NON EU27 COUNTRIES	
Non-EU ESPON Space countries (Iceland, Norway, Switzerland and Lichtenstein)	No data is currently available in Metronamica for countries outside EU27. For countries within EU27 use is made of the Corine Land Cover database, the GISCO transport network and base layers for physical aptness of the land to maintain various land uses as well as base layers for spatial planning which portray the zoning regulations for them. In case land use data in the same projection and with the same classification as CLC and transport data is available for the ESPON space countries, one or more of these countries will be included (using the same parameters as the EU27 application). In this case the socio-economic models within ET 2050 should be able to deliver regional data on population and jobs/GDP, similar as will be done for EU27 and a regions map needs to be available for the countries that will be included.
Candidate and potential candidate countries (Western Balkans and Turkey)	No data available. Given the same restrictions as mentioned above, one or more of these countries could be included.
Other neighbouring countries	No data available, but not required. Metronamica will be used in ET2050 to allocate regional development to a local grid. Neighbouring countries will mainly impact on the national and regional level dynamics and hence these effects will be included in the other models, based on which Metronamica will calculate the land use allocation.

12.5 **SASI**

NAME	**SASI**
BACKGROUND	
Last update	2011
Developer	IRPUD/TU Vienna/S&W
Developed in the project	EUNET/SASI (1996-2000)
Ownership	Not commercialised
Main applications	The SASI model is a recursive simulation model of socioeconomic development of regions in Europe subject to exogenous assumptions about the economic and demographic development of the European Union as a whole and European and national subsidies and infrastructure investments. The SASI model differs from other approaches to model regional development by modelling not only production (the demand side of regional labour markets) but also population (the supply side of regional labour markets). The SASI model was applied in EU projects SASI, IASON, ESPON 1.1.1, ESPON 2.1.1, ESPON 1.1.3, AlpenCorS, STEPs, SETI and national projects in Germany.
Documents of reference	http://www.spiekermann-wegener.de/mod/pdf/AP 0801.pdf
Scientific papers	Wegener, M. (2008): Competitiveness or cohesion: a phase strategy of European spatial development. EUROPA XXI18, 23-38. http://www.spiekermann-wegener.de/pub/pdf/MW_Warsaw_RF2007.pdf. Spiekermann, K., Wegener, M. (2008): The shrinking continent: accessibility, competitiveness and cohesion. In: Faludi, A. (Ed.): European Spatial Research and Planning. Cambridge, MA: Lin¬coln Institute of Land Policy, 115-140. http://www.spiekermann-wegener.de/pub/pdf/KSMW Shrinking continent 120308.pdf
Running time	30 minutes per scenario
Size of total results	27 MB per scenario
Data exchange format	Results can be provided in any format
Software platform	Intel Visual Fortran Composer and ArcGIS
S A M P L E S	
Reference data from	Regional data: 2004 (update to 2007 ongoing), network: data 2007 (continuously updated).
Data used for calibration	GDP per capita by industrial sector, labour productivity by industrial sector, endowment factors, labour force and regional transfers by NUTS3 region and node and link data for strategic road, rail and air networks for 1981, 1986, 1991, 1996, 2001, 2006.
Data inputs	Socioeconomic data for 1,276 EU NUTS3 regions, 54 equivalent regions in other European countries and 41 external regions. Multimodal transport networks with 16,000 road links, 11,500 rail links, 6,300 air links and about 5,000 access links between region centroids and network nodes for every fifth year between 1981 and 2031 (update of regional data to 2007 ongoing).
Main data sources	Region data maintained by S&W, network data maintained by RRG (restricted information).

P O S T U L A T E S	
Forecast reliable up to	2030 (2050 in ET2050))
Geographic coverage	ESPON Space and Western Balkan
Adm. desegregation	NUTS3 (conversion to 2006 NUTS3 regions ongoing).
Thematic scope	Regional GDP, employment, population and labour force and cohesion and polycentricity.
Theory of SASI	Extended production function including accessibility indicators as additional production factors
Q U E R I E S	
European and national subsidies	How will European and national subsidies affect regional economic development, employment, population, travel and goods flows, CO2 emissions, territorial cohesion and polycentricity?
European and national infrastructure invest¬ments	How will European and national infrastructure investments affect regional economic development, employment, population, travel and goods flows, CO2 emissions, territorial cohesion and polycentricity?
Energy costs	How will rising energy costs affect regional economic development, employment, population, travel and goods flows, CO2 emissions, territorial cohesion and polycentricity?
R E S U L T S (Main families of indicators)	
Population indicators	Population by age, sex, nationality, labour force participation, education, net migration and net commuting by NUTS3 region
Economic indicators	GDP by industry, by worker, by capita, employment by industry and unemployment by NUTS3 region
Accessibility indicators	Accessibility by mode (travel/goods) by NUTS3 region
Cohesion indicators	Cohesion and polycentricity indicators of NUTS3 regions
Transport indicators	Travel and goods flows between NUTS3 regions by mode by year (development ongoing).
Environmental indicators	Energy consumption and CO_2 emissions of transport by NUTS3 region by year (development ongoing)
Typical graphic output (maps, diagrams)	Time-series diagrams by country or macro region by scenario, maps or 3D surfaces of indicators or indicator differences between scenarios by NUTS3 region
ADAPTATIONS PLANED IN THE FRAME OF ET2050	
Sample	Conversion of region system to 2006 NUTS3 regions. Update of regional and network data to most recent data.
Postulates	Extension of forecasting horizon to 2050.
Questions	Extension of questions by travel and goods flows and CO_2 emissions of transport
Results	Travel and goods flows and energy consumption and CO_2 emission of transport
INTERACTION WITH OTHER ET2050 MODELS	
Potential inputs from	Do direct input for the other ET2050 models

Can provide outputs for	a) for other models: - Population: MOSAIC, METRONAMICA - GDP: MOSAIC, METRONAMICA - Transport networks: METRONAMICA (b) for the meta analysis (common output indicators): - Population: MULTIPOLES, MASST, SASI - Migration: MULTIPOLES, MASST, SASI - GDP per capita: MASST, SASI - Employment: MASST, SASI - Travel and goods transport flows: MOSAIC, SASI - Energy consumption, CO_2 emissions: MOSAIC
DATA IN NON EU27 COUNTRIES	
Non-EU ESPON Space countries *(Iceland, Norway, Switzerland and Lichtenstein)*	Data available from national sources, update ongoing
Candidate and potential candidate countries *(Western Balkans and Turkey)*	Data available at lower resolution from national sources, update and further spatial desegregation ongoing.
Other neighbouring countries	Data available at lower resolution from national sources, update and further spatial desegregation ongoing.

13. ANNEX 3 – First draft list of targeted stakeholders for Participatory Plan

This first draft list of stakeholders provided below is just intended to give a first image on the kinds of stakeholders targeted for participation in ET2050, either presencially or in electronic participation activities. This list is at an embryonic stage.

- Regional Policy DG
- ESPON Monitoring Committee
- Association of European Border Regions
- Assembly of European Regions
- Council of Europe Conference of Ministers Responsible for Spatial/Regional Planning
- Council of European Municipalities and Regions
- Council of Europe
- Committee of the Regions
- Conference of Peripheral Maritime Regions
- Délégation interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale
- United Nations Department of Economic and Social Affairs
- Agriculture and Rural Development DG
- Climate Action DG
- Enterprise and Industry DG
- Environment DG
- Mobility and Transport DG
- Research and Innovation DG
- European Central Bank
- United Nations Economic and Social Council
- European Environment Agency
- European Economic and Social Committee
- European Investment Bank
- European Maritime Safety Agency
- European Parliament
- European Railway Agency
- European Sea Ports Organisation
- Eurostat DG
- Eurocities
- European Organisation for the Safety of Air Navigation
- Food and Agriculture Organization of the United Nations
- International Air Transport Association
- International Energy Agency
- International Labour Organization

- International Monetary Fund
- International Maritime Organisation
- Interreg
- Intergovernmental Panel on Climate Change
- International Union for Conservation of Nature and Natural Resources
- Network of Territorial Cohesion Contact Points
- Organisation for Economic Co-operation and Development
- Urban Development Group
- United Nations Educational, Scientific and Cultural Organization Institute for Statistics
- United Nations Economic Commission for Europe
- United Nations Environment Programme
- United Nations Environmental Program -World Conservation Monitoring Center
- United Nations Economic and Social Commission for Asia and the Pacific
- United Nations World Tourism Organization
- US Department of Agriculture
- US Energy Information Administration
- World Energy Council
- World Health Organization
- World Bank
- World Shipping Council
- World Trade Organization
- World Travel and Tourism Council
- Airbus
- Boeing
- British Petroleum
- Shell
- World Resources Institute
- World Wide Fund for Nature
- Pardee Center for International Futures
- Airports Council International - European Region
- Allianz der öffentlichen Wasserwirtschaft e.V.
- ARCO LATINO
- Assembly of European Regions
- Association Européenne des Agences de Développement
- Association Internationale Forêts Méditerranéennes
- Association of European Cities and Regions for Culture

- BalticSea2020
- Baltic Sea Chambers of Commerce Association
- Baltic Sea States Subregional Co-operation
- BirdLife Europe
- Brussels Centre for Integration and Development
- CECODHAS - European Liaison Committee for Social Housing
- CEEweb for Biodiversity
- Central Europe Energy Partners
- Centre européen Robert Schuman
- Centre for European Policy Studies
- Centre for Regional Development STABILITY
- CLECAT - European association for forwarding, transport, logistic and Customs services
- Community of European Railway and Infrastructure
- Conference of European Cross-border and Interregional City Networks
- Conference of Peripheral Maritime Regions (CRPM)
- Dryport a modal shift in practice
- Energy Cities
- EUREKA Secretariat
- EUROCHAMBRES – Association of European Chambers of Commerce and Industry
- EUROCITIES
- EUROMED Business Managers Network
- Euromontana
- EUROPARC Federation
- European Alliance to Save Energy
- European Association of Public Banks and Funding agencies AISBL
- European Association of Research and Technology Organisations
- European Biomass Association
- European Conference of Transport Research Institutes
- European Council for the Village and Small Town
- European Cultural Tourism Network
- European Cyclists' Federation
- European Farmers
- European Federation for Transport and Environment
- European Federation of Food, Agriculture and Tourism Trade Union
- European Federation of Inland Ports
- European Federation of National Associations of Water and Wastewater Services

- European Federation of National Organisations working with the Homeless
- European Federation of Rural Tourism
- European Geothermal Energy Council
- European Hydrogen Association
- EUROPEAN LOW FARES AIRLINE ASSOCIATION
- European Mobility
- European Network for Accessible Tourism - ENAT asbl
- European Network of Cities and Regions for the Social Economy AISBL
- European New Towns Platform/Pilot cities
- European Regional Aerodromes Community (ERAC)
- European Regions Airline Association
- European Road Transport Telematics Implementation Coordination Organisation
- European Sea Ports Organisation
- European Telecommunications Network Operators' Association
- EUROPEAN TRADE UNION CONFEDERATION
- Eurosite
- Federation Européenne des Agences et des Régions pour l'Energie et l'Environnement
- Forum permanent de la société civile européenne
- Foundation for strong European Regions
- INERIS
- Inland Navigation Europe
- INSULEUR – Réseau des Chambres de Commerce et d'Industrie insulaires de l'UE
- International Association for Danube Research
- International Road Transport Union Permanent Delegation to the EU
- International Society of City and Regional Planners
- LANDS ONLUS
- Mediterranean Forestry Arc
- Naturefriends International
- Network of European Region for a Sustainable and Competitive Tourism
- NGO World and Danube- Nevladina organizacija Svet i Dunav
- North Sea Commission
- Open Europe
- Partnership for European Environmental Research
- Peri-Urban Regions Platform Europe
- POLIS
- PREPARE - Partnership for Rural Europe

- Regional Advisory Council for the Mediterranean
- Regional Studies Association
- Ruralité-Environnement-Développement
- South-East European Federation of Cities and regions for the Environment
- TER_RES - Territoires Responsables
- The Association of Electricity Producers
- The Lisbon Council for Economic Competitiveness and Social Renewal asbl
- The Management Centre of the Mediterranean
- The Regional Environmental Center for Central and Eastern Europe
- International organisation for public transport
- UNIFE
- Union des Transports Publics et ferroviaires
- Union Internationale des Chemins de Fer
- Union of European Foresters
- Union of the Baltic Cities
- Union sociale pour l'habitat
- Vision and Strategies around the Baltic Sea
- WWF Danube-Carpathian Programme
- WWF European Policy Programme

14. ANNEX 4 – Draft Minutes of ET2050 meeting with ESPON MC

The ESPON Managing Authority
Ministry of the Sustainable Development and Infrastructures, Luxembourg
The ESPON Coordination Unit

Luxembourg 19 December 2011

The ESPON 2013 Programme

Monitoring Committee meeting on 1-2 December 2011

Venue:
Jagiellonian University of Krakow
Ul. Krupnicza 33, 31-123 Krakow

Draft Minutes

Workshop: Scenarios and Visions 2050

The aim of the workshop was to give an overview on the ET2050 project on Scenarios and Visions for 2050 to ESPON MC members, how it will develop, and how the MC, DG Regio and other actors in Europe will be able to contribute to the project through the participatory approach.

The ESPON CU highlighted the fact that the specific participatory approach introduced in the ET2050 Project Specifications builds on the experiences gained from the previous ESPON 2006 project on scenarios (the ESPON 3.2 project).

Andreu Ulied (MCRIT, Lead Partner of ET2050) introduced the ET2050 project, after which Valerie Biot (IGEAT, Project Partner) explained the Participatory Plan. The main objective of the Participatory Plan is to engage ESPON MC, as well as other European policy-makers and policy-analysts, in the development of a Territorial Vision for Europe in 2050 and thereby generate a strong sense of ownership by the ESPON MC, DG Regio and other actors in the field of territorial development on this Territorial Vision.

A number of suggestions were made by ESPON MC members on the approach and methodology proposed. It was agreed that the role of the ESPON MC will not consist only on discussions of scientific outputs to be presented by ET2050, on trends and scenarios; the ESPON MC role will consist mostly on steering early discussions concerning the political goals and values of the Vision to be developed. Consistent scenarios will help to define a realistic Vision, but also early discussions on the goals and values embedded in the Vision will help to design more policy-relevant scenarios. Both processes will be interactive and will start early in the project, since the project has to be both scientifically and politically driven.

The TPG was asked to clarify the process for decision making and to give a clear picture of when the MC is taking a decision on what and after what moment it is no longer feasible to turn back on the decision made. ET2050, in the next workshop with ESPON MC, will present the precise methodology to be applied in the discussion activities of ESPON MC towards the European Territorial Vision for 2050.

It was agreed that the Participatory Plan will be flexible enough and adapted to the evolution of the project and coordinated to ESPON CU activities, as much as feasible. The use of internet is considered to be a helpful tool for surveys on line on scenarios and/or to develop ideas. In this sense, ET2050 invited the ESPON MC to visit the website of the project (www.et2050.eu) that will be permanently updated as an open knowledge-sharing environment as well as a central communication platform.

Finally, the participatory approach was also considered as a good marketing tool for ESPON because it will raise awareness of the programme. It was indicated by ESPON MC members that the Scenarios and the Vision could be used as a basis for future development documents/strategies in Member States, as has been the case with the ESPON 2006 project on scenarios.

Questions were asked about if and how the project intends to address and/or include in their work: activities/processes that are now starting (such as the Strategy for the Atlantic), existing scenarios with a time horizon of 2020 or 2030, the World future trends, the current prospective exercise (territory 2040 by DATAR) and the long term visionary documents that have just been published by the team of Commissioner Barroso. ET2050 project members indicated that these and many other relevant initiatives are being identified, included in the Virtual Library of the website, and analysed to support the work. The nature of ET2050 requires producing a "prospective and territorially-based synthesis" of all relevant material. In particular, many ESPON projects contain a future-oriented dimension (e.g. trends, sectorial or territorial scenarios…) and therefore constitute indispensable references for the work to be carried out.

The ET2050 TPG and the ESPON MC, will identify actors who could provide for new ideas, as extreme as possible, about possible future for Europe. More influential 'Free thinkers' will be indentified and studied to support the definition of scenarios. A map with more relevant "Free thinkers" or "Visionaries" displayed according to their level of agreement or disagreement will be presented by ET2050 in the next ESPON MC workshop.

The following additional actors were mentioned to be considered in one of the stakeholders groups: European Parliament (key policy makers at EU level), EESC (important to involve the social sector), European Central Bank, EIB (currently launching an investigation on criteria for future loan), Economic Commission for Europe, Professional institutions such as spatial planners and regional town planners (European Council), urban development groups, SMEs (not only big enterprise), NGOs (environmental, international networks) and at some point of the process also civilians could be involved (cf. best practices in countries).

The project will deliver their Inception Report, including the Participatory Plan on 31 December 2011.

For now, the MC is kindly asked to send input on the following issues:

- Suggestion on actors to be involved (during the project lifetime).
- Suggestion on (strategic) policy-documents at National and Regional level which should not be missed when writing the present state of territory: deadline 15 January 2012.
- Suggestions on ways to make more useful the website www.et2050.eu (during the project lifetime).

www.espon.eu

The ESPON 2013 Programme is part-financed by the European Regional Development Fund, the EU Member States and the Partner States Iceland, Liechtenstein, Norway and Switzerland. It shall support policy development in relation to the aim of territorial cohesion and a harmonious development of the European territory.