



**CENTRAL
EUROPE**
COOPERATING FOR SUCCESS.



EUROPEAN UNION
**EUROPEAN REGIONAL
DEVELOPMENT FUND**



CENTRAL EUROPE PROGRAMME

Results of the regional analysis

Document analysis, online survey, interviews, SWOT

4 September 2012

Commissioned by:
Central Europe Managing Authority
City of Vienna, Municipal Department for EU-Strategy and Economic Development

Project team: Österreichisches Institut für Raumplanung • ÖIR GmbH

Bernd Schuh

Sebastian Beiglböck

Erich Dallhammer

Stephanie Essig

Jiannis Kaucic

Stefan Philipp

Polish Academy of Sciences, Institute of Geography and Spatial
Organization

Jerzy Bański

Mariola Ferenc

Michał Konopski

Janusz Księżak (cartography)

Österreichisches Institut für Raumplanung • ÖIR GmbH

A-1010 Wien, Franz-Josefs-Kai 27 | Telefon +43 1 533 87 47-0, Fax -66 |

www.oir.at

CONTENTS

Abbreviations	10
Executive Summary	12
1. The frame of the analysis	15
1.1 The overall task	15
1.2 The existing CENTRAL programme 2007–2013	15
1.3 The regulatory frame for the period 2014–2020	17
1.4 The Methodology of the analysis	20
1.4.1 Territorial analysis	21
1.4.2 Document analysis, needs analysis grid and synergy map	22
1.4.3 Online survey	23
1.4.4 Phone interviews	25
1.4.5 SWOT analysis and SWOT workshop	26
2. The main challenges the CENTRAL area is facing – describing the baseline	28
2.1 Territorial analysis	28
2.1.1 The challenges of the CENTRAL EUROPE area	32
2.1.2 Globalisation/Economic development	40
2.1.3 Accessibility	57
2.1.4 Demographic Change	73
2.1.5 Social Cohesion	81
2.1.6 Climate Change	94
2.1.7 Energy	104
2.1.8 Environment	119
2.1.9 Governance	139
2.2 The stakeholders' point of view	148
2.2.1 Results from the online survey	148
2.3 A summary of the main challenges	153
3. The needs within the CENTRAL area	159
3.1 Analysis of the relevant strategic documents	159
3.2 The stakeholders' point of view	171
3.2.1 Needs of the CENTRAL area identified in the online survey	171
3.2.2 Needs of the stakeholders identified in the online survey ('future topics of interest')	177
3.2.3 Needs identified during the phone interviews	184
3.3 A common picture of the needs of the region	190
4. SWOT Analysis and potentials	193

4.1	The sectorial SWOT tables: Overview of strengths/weaknesses and opportunities/threats in the CENTRAL area	193
4.2	The final SWOT table	201
4.3	Comments from the stakeholders – results of the phone interviews	203
4.4	Comparing the SWOT 07–13 & 2014+	205
4.5	Potentials and barriers the CENTRAL area is facing	208
4.5.1	Existing Potential: Technology-oriented areas and destinations for foreign investments and capital flows (EP1)	213
4.5.2	Existing Potential: Specialisation of well-connected, polycentric regions with an emphasis on renewable energy and green industries accompanied by reuse and adaption of brown fields and deprived areas (EP2)	214
4.5.3	Existing Potential: Tourism and the protection of the environment (EP3)	216
4.5.4	Possible Potential: Co-operative initiatives and cluster development reducing access and employment deficits in peripheral regions (PP1)	217
4.5.5	Possible Potential: Technological modernisation and polycentric development to increase accessibility and adapt connections and networks (PP2)	218
4.5.6	Possible Potential: Involvement of peripheral, former marginalised regions in development and progress (PP3)	220
4.5.7	Existing Barrier: Increasing lagging behind of peripheral, badly accessible regions (EB1)	221
4.5.8	Existing Barrier: Raising social polarisation due to demographic change and lack of investment in peripheral areas (EB2)	222
4.5.9	Existing Barrier: Environmental disasters and up-coming development restrictions in consequence of negative effects of climate change and demanding consumption patterns (EB3)	223
4.5.10	Possible Barrier: Loss of attractiveness of high valued regions by reason of environmental quality decline, demographical change and lack of investment (PB1)	224
4.5.11	Possible Barrier: Brain drain occurrences due to disadvantages of shrinking areas (PB2)	225
4.6	Summing up the potentials of CENTRAL EUROPE	226
5.	Next steps	228
	Annex 1: Bibliography	231
	Annex 2: Questions of the online survey	238
	Annex 3: Inventory of answers of the online questionnaire	245

Tables

Table 1:	Final SWOT-table of the CENTRAL EUROPE area	14
Table 2:	Priorities and thematic areas of intervention in the CENTRAL EUROPE Programme 2007–13	16
Table 3:	Scheme for the SWOT analysis	27
Table 4:	Administrative regions in the CENTRAL EUROPEAN region	28
Table 5:	Development of overnight stays in CE-Regions after the economic crisis; 2008=100	42
Table 6:	Intra EU-27 trade, 2005 and 2010 (EUR 1 000 million)	47
Table 7:	Modal Split of Passenger Transport on Land by Country 2000 and 2008 (Passenger-km in %)	68
Table 8:	Primary production of renewable energy in CE-Countries (tonnes of oil equivalent, 2000 and 2010) and shares of energy sources	109
Table 9:	Gross inland energy consumption of Biomass compared to total, 2010	114
Table 10:	Important bundles of needs within the regions of the CENTRAL EUROPE area	161
Table 11:	SWOT-tables of the CENTRAL EUROPE area	194
Table 12:	final SWOT-table of the CENTRAL EUROPE area	202
Table 13:	SWOT analysis: deducting potentials and barriers	212

Figures

Figure 1:	Course of the analysis (phase 2)	21
Figure 2:	Participants in the online survey per country of origin and organisation	24
Figure 3:	Establishing the link between the ERDF thematic objectives and the territorial challenges of EU regions	34
Figure 4:	Employment in high-tech sectors as a share of total employment, highest-share and lowest-share NUTS 2 region within each country, 2009	50
Figure 5:	Number of SMEs per 1.000 inhabitants in 2008	55
Figure 6:	Vulnerability typology	60
Figure 7:	Changes in temperature and precipitation over Europe from the MMD-A1B simulations.	98
Figure 8:	Gross inland energy consumption by source, 2000 and 2010	111
Figure 9:	Percentage of terrestrial areas protected by law, 2010	121
Figure 10:	Types of Waste Treatment	125
Figure 11:	Water exploitation (1990/2010)	126
Figure 12:	Average pollution concentrations for European rivers.	130
Figure 13:	Estimated allocation for site remediation	137
Figure 14:	E-government development index	146
Figure 15:	Challenges in CENTRAL Europe according to the stakeholders	149
Figure 16:	Most important challenges in CENTRAL Europe according to the stakeholders by country	150
Figure 17:	Least important challenges in CENTRAL Europe according to the stakeholders by country	150
Figure 18:	Most important challenges in CENTRAL Europe according to the stakeholders by type of organisation	151
Figure 19:	Least important challenges in CENTRAL Europe according to the stakeholders by type of organisation	152
Figure 20:	Course of the analysis: elements of the analysis of challenges	153
Figure 21:	Needs of CENTRAL Europe: keywords in strategic documents	163
Figure 22:	Needs of CENTRAL Europe: keywords in strategic documents by country	164
Figure 23:	Needs of CENTRAL EUROPE according to the stakeholders	172
Figure 24:	Needs of CENTRAL EUROPE according to the stakeholders by country	173
Figure 25:	Needs of CENTRAL EUROPE according to the stakeholders by type of organisation	174
Figure 26:	Needs of CENTRAL EUROPE according to the stakeholders in detail	176
Figure 27:	Needs of the stakeholders themselves ('future topics of interest')	178
Figure 28:	Needs of the stakeholders themselves ('future topics of interest') by country	179
Figure 29:	Needs of the stakeholders themselves ('future topics of interest') by type of organisation	180

Figure 30: Needs of of the stakeholders themselves ('future topics of interest') in detail	182
Figure 31: Needs of CENTRAL EUROPE according to the stakeholders by their own future topics of interest	183
Figure 32: Needs in CENTRAL Europe according to the stakeholders in the phone interviews	185
Figure 33: Course of the analysis: elements of the analysis of needs	190
Figure 34: Needs of CENTRAL Europe: strategic documents compared to results of the online survey and the stakeholder interviews	191
Figure 35: Potentials and barriers within the SWOT-classification.	210
Figure 36: Course of the analysis: elements of the analysis of potentials	226
Figure 37: Course of the analysis: conclusions	229
Figure 38: Other external challenges mentioned	245
Figure 39: Other needs mentioned	246

Maps

Map 1:	Participants in the online survey	25
Map 2:	Location of CENTRAL EUROPE with respect to the continent	28
Map 3:	The major cities of CENTRAL EUROPE	30
Map 4:	Urban, rural and intermediate regions at NUTS3 level	31
Map 5:	Gross Domestic Product in thousands of euros per inhabitant in current market prices in 2008 and total intramural R&D expenditure (<i>GERD</i>) in 2008 (%)	41
Map 6:	Share of the services (tertiary sector) in Gross Value Added in 2008	42
Map 7:	Tourism intensity, nights spent in hotels, campsites and other collective tourist accommodation, by NUTS 2 regions, 2010	45
Map 8:	Share of researchers in total number of persons employed, all sectors, by NUTS 2 regions, 2008 (%)	50
Map 9:	Patent applications to the EPO, by NUTS 3 regions, 2006 (per million inhabitants)	51
Map 10:	Relation between the creative workforce and GDP per capita	53
Map 11:	GDP-PPS per capita versus potential multimodal accessibility	59
Map 12:	Accessibility – vulnerability	60
Map 13:	Trans-European Transport Network (TEN-T) in CENTRAL EUROPE (Eastern part, core and comprehensive network)	64
Map 14:	Trans-European Transport Network (TEN-T) in CENTRAL EUROPE (Western part, core and comprehensive network)	65
Map 15:	Potential increase in rail and road accessibility: high-speed scenario relative to current situation.	67
Map 16:	Households with broadband connection, 2009	71
Map 17:	Europe and its neighbourhood: Components of recent population change 1998–2008 (Webb Classification)	74
Map 18:	Europe and its neighbourhood: Components of population change 2008–2020 (Webb Classification)	74
Map 19:	Average life expectancy in 2010	76
Map 20:	Labour market transformation – Vulnerability	85
Map 21:	Education structure of population aged 25–64 in relation to total population size, 2010; changes in population with tertiary education in years 2008–2010	86
Map 22:	Population gender balance, aged 25–34 with tertiary education, 2008	89
Map 23:	Access to SGEIs – Vulnerability	90
Map 24:	Population at risk of poverty, 2008	92
Map 25:	Natural hazards. Map of vulnerability	96
Map 26:	Projected change in number of tropical nights (1961–1990, 2071–2100)	100
Map 27:	Proportion of employment in industries with high energy purchases, 2005	108
Map 28:	Wind Power Potential, 2009	115
Map 29:	Photovoltaic (PV) Potential in the EU Regions, 2010	116

Map 30:	Natura 2000 areas under the Habitats directive (SCIs)	122
Map 31:	Grouping of countries (level of incineration and material recovery)	125
Map 32:	Urban waste water treatment capacity (2007)	127
Map 33:	Water dependency – Vulnerability	128
Map 34:	Surface water quality – ecological status or potential.	131
Map 35:	Chemical status of groundwater bodies per count.	132
Map 36:	Air quality: Concentration of particulate matter at surface level. Data from 2009	133
Map 37:	Air quality: Ozone concentration exceedance in 2008	134
Map 38:	Soil sealed area (2006)	136

Abbreviations

CADSES	Central, Adriatic, Danubian and South-eastern European Space
CE	CENTRAL EUROPE
CF	Cohesion Fund
CMS	Content Management System
CO ₂	Carbon dioxide
CPI	Corruption Perception Index
CSF	Common Strategic Framework
EAFRD	European Agricultural Fund for Rural Development
EB	Existing Barrier
EC	European Commission
EFTA	European Free Trade Association
EMFF	European Maritime and Fisheries Fund
EP	Existing Potential
EPO	European Patent Office
ERDF	European Regional Development Fund
ESF	European Social Fund
ESPON	European Spatial Planning Observation Network
EU	European Union
EU-25	Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom
EU-27	Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom
EUR	Euro
EUROSTAT	statistical office of the European Union
GDP	Gross Domestic Product
GDR	German Democratic Republic
GVA	Gross Value Added

HRST	Human Resources in Science and Technology
ICT	Information and Communication Technologies
IDI	ICT Development Index
IT	Information Technologies
IT	Information Technologies
IUS	Innovation Union Scoreboard
JRC	Joint Research Centre
JTS	Joint Technical Secretariat
MC	Monitoring Committee
MS	Member State
NGO	Non Governmental Organisation
NUTS	“Nomenclature des Unites Territoriales”/Nomenclature of Territorial Units for Statistics (geocode standard for referencing the administrative division of countries for statistical purposes)
OECD	Organisation for Economic Co-operation and Development
PB	Possible Barrier
PP	Possible Potential
R&D	Research and Development
R&I	Research and Innovation Infrastructure
ROE	Return On Equity
SCI	Sites of Community Importance
SGEI	Services of General Economic Interests
SGEIS	Supplemental Generic Environmental Impact Statement
SII	Summary Innovation Index
SME	Small and Medium-sized Enterprise
SWOT	Qualitative analysis of Strengths, Weaknesses, Opportunities and Threats
TEN-T	Trans-European Transport Network
TI	Transparency International
US	United States

Executive Summary

The CENTRAL EUROPE PROGRAMME area covers over 1 million square kilometres and about 149 million people in eight Member States (Czech Republic, parts of Germany, parts of Italy, Hungary, Austria, Poland, Slovenia and the Slovak Republic). The Ukraine is a permanent observer.

A particular characteristic of CENTRAL EUROPE is the significant variation in its spatial structure. No other transnational programming area of Europe is as varied in terms of its technical and social infrastructure or access to communication. Similar discrepancies are observed in relation to the gross domestic product and expenditure on research and development in the countries of the region. This wide spatial disparity is primarily the result of the region's pre-existing historical conditions.

The geographical location of CENTRAL EUROPE underlines its image as the crossroads of Europe. Several important transport and transit routes cross the region from west to east and from north to south. The intelligent and reasonable harnessing of this trait as well as the peripheralisation of some of its areas are a vital challenge for development. The problem of peripheralisation is connected to the process of spatial polarisation, which applies to all of Europe. Dynamic development is, by and large, restricted to metropolitan areas (e.g. Berlin, Milan, Prague, Budapest, Warsaw), accentuating and deepening the spatial rift between the regions.

Based on the analysis of the strategic documents and enriched by the stakeholders view collected through the online survey with 934 respondents and 40 in-depths interviews the main needs within the CENTRAL area were depicted¹. Being mentioned in almost 90% of the regions the “use of renewable energy sources”, remains the most urgent need in CENTRAL EUROPE. Moreover very important, are: ‘Research, technological development and innovation’ ‘Environment and resource efficiency’, ‘Competitiveness of SMEs’, Education, skills and lifelong learning’, ‘Sustainable transport and key network infrastructures’ and ‘Employment and labour mobility’.

The needs least stressed are ‘Institutional capacity and efficient public administration’, ‘Social inclusion and combating poverty’, ‘Climate change adaptation, risk prevention and management’ and ‘Low-carbon economy in all sectors’. The most heterogeneous results have been detected in ‘Climate change

¹ The survey was not to be understood as representative survey in itself. The statistical representativeness was completely missing and a fair representation of the single MS in the sheer number of interviews as well.

adaptation, risk prevention and management’ and ‘Low-carbon economy in all sectors’, which both are much more often referred to in strategic documents than by the stakeholders consulted directly.

Based on the needs analysis and combining it with the results of the description of the baseline a SWOT analysis assesses the internal strengths and weaknesses of the CENTRAL EUROPE region as well as external opportunities and threats. Combining the internal strengths and weaknesses with the opportunities and threats, which represent overall European and worldwide trends the area is confronted with, depicts the potentials and barriers the CENTRAL area is facing. This leads to four components of strengths, potentials, barriers and threats:

1. Strengthening CENTRAL EUROPE’S existing strengths
 - ▶ Technology-oriented areas and destinations for foreign investments and capital flows
 - ▶ Specialisation of well-connected, polycentric regions with an emphasis on renewable energy and green industries accompanied by reuse and adaption of brown fields and deprived areas
 - ▶ Tourism and the protection of the environment
2. Making use of CENTRAL EUROPE’S available potentials
 - ▶ Co-operative initiatives and cluster development reducing access and employment deficits in peripheral regions
 - ▶ Technological modernisation and polycentric development to increase accessibility and adapt connections and networks
 - ▶ Involvement of peripheral, former marginalised regions in development and progress
3. Removing CENTRAL EUROPE’S existing barriers
 - ▶ Increasing lagging behind of peripheral, badly accessible
 - ▶ Raising social polarisation due to demographic change and lack of investment in peripheral areas
 - ▶ Environmental disasters and up-coming development restrictions in consequence of negative effects of climate change and demanding consumption
4. Averting CENTRAL EUROPE’S possible threats
 - ▶ Loss of attractiveness of high valued regions by reason of environmental quality decline, demographical change and lack of investment
 - ▶ Brain drain due to disadvantages of shrinking areas

The fine-tuning of the selection of thematic objectives as well as the breaking down of these general objectives in more concrete fields of intervention will be accomplished in the upcoming third phase of the process. A synergy workshop will be conducted where this prioritisation and selection will be conducted under the condition of relevance for transnational cooperation programmes as well as the experiences from the ongoing CENTRAL programme.

Table 1: Final SWOT-table of the CENTRAL EUROPE area

Internal factors	
Strengths	Weaknesses
▶ High expenses in R&D in urban regions, target work area for highly skilled workers ▶ Some rural and intermediate areas show significant R&D activities ("islands of innovation") ▶ High level of experience and know-how in high-tech services (e.g. renewable energy) ▶ Frog-leaping of technological progress in terms of ICT-quality in some regions (broadband-implementation) ▶ Increase of renewable energy (wind, solar, biomass, geothermal energy potentials) ▶ Use of energy saving technologies (infrastructure, housing) ▶ Existing flood prevention measures and hazard zoning, especially in Alpine regions ▶ Richness and diversity of landscape, natural and cultural heritage as important location factors ▶ On-going investments in connections in long-distance transport TEN-T networks/high potential multimodal accessibility in capital regions and in the western regions ▶ Diverse cultures and population (ethnic diversity, linguistic minorities, gender) ▶ Increasing level of education/lifelong learning/female education participation → qualified workforce ▶ Growth in business-related services, cross-sectoral and technology-oriented industries ▶ Benefits of specific geopolitical situations and modifications for the CE area after EU-enlargements ▶ Revitalised brown fields and deprived areas/Rehabilitated built infrastructure, housing estates, urban centres & sub centres ▶ Connected top-down and bottom-up initiatives with the help of multi-level governance ▶ Tradition of interregional transnational and cross-border cooperation on institutional, political & administrative level and within projects (strengthening of identities, endogenous potential, economic cooperation, labour market migration)	▶ Low level of R&D (environment of innovation, cooperation projects) in several (rural) regions/insufficient technology transfer and lack in the access to R&D-results especially for SMEs ▶ Sectorial and spatial inequalities of ICT-infrastructure ▶ Strong economic disparities (core-periphery) in GDP ▶ Access to finance out of line with current needs, especially for start-ups and small loans (micro credit) ▶ Strong economic disparities between CE regions (esp. in old and new Member States / Inequalities in GDP between the peripheral and central areas/ Unidirectional workforce migration from new to old MS ▶ High level of energy import dependency and imports from countries vulnerable to economic or political instability/ increasing energy demand and lack of energy corridors and power lines esp. for renewable energy ▶ High level of land consumption & existing land use conflicts ▶ Bad air quality and high ozone concentrations in cities/ bad water quality of rivers and lakes in some regions (eutrophication) ▶ Lack of quality and quantity of environmental infrastructure in some regions (waste and water treatment) ▶ Weak local, regional and transnational accessibility especially outside of agglomeration areas and in the new MS and lack of integrated transport systems and multimodality ▶ Low quality of public transport, decreasing share of public transport & missing road links and border-crossings in many peripheral regions ▶ Low activity rate ▶ Increasing number of (youth) unemployment in some areas ▶ Demographic change increases problems for finance social and technical infrastructure especially in shrinking regions ▶ Marginalisation of peripheral areas and insufficient access to services and employment ▶ Insufficient access to services and employment in regions dominated by small villages and sparsely populated areas ▶ Risk of Poverty for different groups ▶ Disadvantages for ethnic minorities – social problems, low levels of education, high unemployment, etc. ▶ Weak civil society/ Activation of citizens needed ▶ Variety of administrative systems/Outdated public administration
External factors	
Opportunities	Threats
▶ Promotion of innovation and an attractive investment climate in several regions ▶ Supporting R&D, technology and innovation & research centres ▶ Large marginal benefits from technological modernisation ▶ Opportunity of upgrading ICT quality in the wake of EC goal to bring all Internet connections to the speed of 30 Mbps by 2020 ▶ Enhancement of competitiveness regulations triggers SME development ▶ Common currency ▶ Attractiveness of CE regions as destination for foreign investment (particular CE cities and agglomerations) & increasing embeddedness into global flows ▶ Policy support of co-operative economic activities, development of clusters and networks ▶ Opportunity of improving energy connectivity in the wake of TEN-E and of, decentralised energy production ▶ Increasing awareness about climate change effects and counter measures ▶ Cohesion Policy focusing on environmental infrastructure, ranging from clean drinking water supply, waste management and waste water treatment ▶ In the wake of EU policies (environment and CAP) establishment of a high proportion of protected areas ▶ Flexibilisation of the labour market/support of alternative employment forms through EU funding ▶ Increase in "green" employment based on EU-funds, support for eco-innovation ▶ Tourism as a tool to balance regional disparities and job creation ▶ Expansion of action radii due to enlargement processes ▶ Promotion of a polycentric and a balanced territorial development ▶ Maturity of European knowledge society and the exchange of knowledge and cultural values promoting flexible creative workforce ▶ Connectivity to co-operative macro-regional strategies such as the Baltic Sea Strategy, the Danube Strategy and the Adriatic Sea Strategy	▶ Increasing gap of regulation and implementation necessity and know-how and man power of administration/Threat of over-regulation ▶ Lack of Competitiveness (due to lack of trained workforce, contracting financial markets, lack of multimodal accessibility ...) ▶ Increasing embeddedness into global capital flows threatens local market potentials ▶ Lack of investments in regional infrastructures increases the core-periphery disparities ▶ Existing lifestyles in "mature" economies and catching up processes in New MS lead to increased energy demand ▶ Increase of minimum temperature in winter & continuous reduction of blanket of snow ▶ Climate change affects natural environment (extinction of species; geographical shift of crops) ▶ On-going desertification and increasing aridity in some regions as well as strong increase of number of tropical nights in urban areas ▶ Increasing occurrences of natural hazards and floods ▶ Increased unsustainable use of environmental resources due to economic activities ▶ Brain drain of young and creative talents from peripheral regions due to loss of urban and environmental quality ▶ Increasing (labour) market competition with other global regions (China, India, ...) and pressure on economic productivity (due to disappearing borders) ▶ Agglomeration advantages of cities tend to represent disadvantages for rural/peripheral regions ▶ Ageing population ▶ Suburbanisation processes ▶ Increasing gaps between innovative proactive regions and regions with innovation deficits, well connected regions and those with ICT deficits

1. The frame of the analysis

1.1 The overall task

In 2011 the CENTRAL EUROPE Monitoring Committee (MC) started an internal discussion on a future transnational cooperation programme for the CENTRAL EUROPE area in the programming period 2014–2020. In order to prepare for the new period the MC asked for an in-depth analysis on the current and future challenges, needs and potentials of the CENTRAL EUROPE area, characterising at the same time the stakeholders of the identified needs and the actors able to unfold potentials.

This report provides a first overview of the findings of this task. It incorporates a thorough territorial analysis of the CENTRAL EUROPE (CE) area – specifically pointing out the changes during the programming period 2007–13 – thus establishing a baseline and identifying the most crucial territorial challenges in an evidence based way. In a second step the territorial needs and challenges have also been assessed by a comprehensive online survey and a set of interviews with selected stakeholders to the programme.

The needs and challenges of the CE area have also been assessed by an exhaustive document analysis: this analysis served as thesaurus for articulated territorial needs as laid down in regional, national and EU level strategic documents (sector strategies, Operational Programmes, territorial strategy papers).

This set of information has been analysed and structured through synergy mapping and a SWOT analysis. Finally through crossing the findings from this SWOT analysis with the territorial, evidence based challenges the report arrives at five thematic objectives, which form the basis for the further identification of the future CE programme priorities.

1.2 The existing CENTRAL programme 2007–2013

In the new Structural Funds Period (2007–2013), the former CADSES transnational cooperation area is now divided into two spaces: Central Europe and South East Europe. Following the Lisbon and Gothenburg strategy, transnational cooperation should play an important role in strengthening the territorial cohesion of the Union. For the CENTRAL cooperation area, this means:

- ▶ intensifying the integration process

- ▶ to continue the work commenced in the past based on experiences and by improving the actions (the quality and management of programme and projects)

The ongoing CENTRAL programme includes eight Member States (Czech Republic, parts of Germany, parts of Italy, Hungary, Austria, Poland, Slovenia and Slovak Republic) and one permanent observer (Ukraine).

The thematic orientation of the CENTRAL programme has been based upon the strengths, weaknesses, opportunities and threats at the time of the beginning of the programming period. The overall programme goal has been formulated in direct response to the renewed Lisbon (growth, competitiveness, employment) and the Gothenburg (sustainability) agendas and is laid down as: *“strengthening territorial cohesion, promoting internal integration and enhancing the competitiveness of Central Europe”*.

As a consequence the CENTRAL programme follows a twofold strategic approach:

1. Improving competitiveness of Central Europe by strengthening innovation and accessibility structures. Comprising the elements of innovation and accessibility
2. Improving territorial development in a balanced and sustainable way by enhancing the quality of the environment and developing attractive cities and regions: comprising the development of the environment and natural resources, improving the general quality of the environment and reducing the impacts of natural and man-made hazards.

The CENTRAL EUROPEAN programme consists of four priorities and the corresponding areas of interventions.

Table 2: Priorities and thematic areas of intervention in the CENTRAL EUROPE Programme 2007–13

Priority	Areas of intervention
Facilitating innovation across Central Europe	– enhancing the framework for innovation; – establishing the capacity to diffuse and apply innovation; – fostering knowledge development.
Improving accessibility to, and within, Central Europe	– improving Central Europe's interconnectivity; – developing multi-modal logistics cooperation; – promoting sustainable and safe mobility; – promoting information and communication technology, as well as alternative solutions for enhancing access.
Using our environment responsibly	– developing a high-quality environment by managing and protecting natural resources and heritage; – reducing the risks and impacts of natural and man-made hazards; – supporting renewable energy and increasing energy efficiency; – supporting environmentally friendly technologies and activities.

Enhancing competitiveness and attractiveness of cities and regions	– developing polycentric settlement structures and territorial cooperation; – addressing the territorial effects of demographic and social change; – capitalising on cultural resources, to make cities and regions more attractive.

Source: <http://www.central2013.eu/about-central/priorities/>

The programme is now in its final stage with all calls for tender accomplished and by now 101 projects being financed². The analysis of the achievement of the programme so far has shown that the ongoing CENTRAL programme shows high affinity with the EUROPE 2020 strategy and contributes to both the priorities within (especially “Sustainable Growth” and “Smart Growth”) and its flagship initiatives.

After analysing the ongoing projects the following thematic clusters of projects may be identified³:

- ▶ Within Priority 1: Facilitating Innovation across Central Europe: innovation clusters, technology transfer and SME support, knowledge and development
- ▶ Within Priority 2; improving accessibility of and within Central Europe: inter-modality and logistics, transport infrastructure and corridors
- ▶ Within Priority 3: Using our environment responsibly: renewable energy and energy efficiency, environment protection, water/flood management, environmental technologies
- ▶ Within Priority 4: Enhancing competitiveness and attractiveness of cities and regions: demographic change, governance/attractiveness of cities and regions, cultural resources/tourism development, site rehabilitation

With this thematic orientation of the Central Europe projects the programme covered quite accurately the thematic scope of the future CSF (Common Strategic Framework) Funds, thus already following this new thematic regime of EU Cohesion Policy.

1.3 The regulatory frame for the period 2014–2020

In line with the proposed legislative package for the new Cohesion Policy 2014–2020, issued by the EU Commission on October 6th, 2011, the starting point of the process for the preparation of an Operational Programme of the Structural Funds is the thematic concentration towards the EU 2020 priorities under discussion in Council and Parliament. Programmes can choose a limited number of priorities from

² status December 2011 – see CENTRAL Europe (2011): Report – Contribution of the CENTRAL Europe Programme to the future transnational cooperation 2014+; JTS CENTRAL Europe; Vienna; since then 23 further projects have been approved (status July 2012)

³ see CENTRAL Europe (2011): Report – Contribution of the CENTRAL Europe Programme to the future transnational cooperation 2014+; JTS CENTRAL Europe; Vienna

a thematic menu with corresponding investment priorities, thus ensuring the focus on European priorities and interventions where cooperation will yield most added value.

The frame as set in the legislative package, issued by the EU COM on 6 October 2011 and revised on March 14th 2012 comprises on the one hand the Proposal for a Regulation COM(2011) 615 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund covered by the Common Strategic Framework and laying down general provisions on the European Regional Development Fund, the European Social Fund and the Cohesion Fund. In Article 9 of this draft Regulation eleven thematic objectives of the future CSF Funds are listed:

- (1) strengthening research, technological development and innovation;
- (2) enhancing access to, and use and quality of, information and communication technologies;
- (3) enhancing the competitiveness of small and medium-sized enterprises, the agricultural sector (for the EAFRD) and the fisheries and aquaculture sector (for the EMFF);
- (4) supporting the shift towards a low-carbon economy in all sectors;
- (5) promoting climate change adaptation, risk prevention and management;
- (6) protecting the environment and promoting resource efficiency;
- (7) promoting sustainable transport and removing bottlenecks in key network infrastructures;
- (8) promoting employment and supporting labour mobility;
- (9) promoting social inclusion and combating poverty;
- (10) investing in education, skills and lifelong learning;
- (11) enhancing institutional capacity and an efficient public administration.

Another element of the legislative package is draft Regulation COM(2011) 611 with the specific provisions for the support from the ERDF to the European territorial cooperation goal. Articles 5 and 6 of the draft Regulation describe the Investment Priorities of the future Transnational Programmes as a selection of up to 4 thematic objectives (as stipulated in Article 9 of the proposal for Regulation COM(2011) 615) with the related investment priorities as stipulated in Article 5 of the Proposal for the Regulation COM(2011) 614 and furthermore the investment priority “development and implementation of macro-regional and sea-basin strategies (within the thematic objective of enhancing institutional capacity and an efficient public administration)”.

In other words – according to the current formulation of the legislative package, it will be necessary for the future CENTRAL EUROPE Programme to select up to four thematic objectives from the range of the 11 objectives stipulated in the draft regulation. This selection will have to be based upon a thorough analysis of the current situation of the programming area and a collection of the needs and challenges it is facing.

The related investment priorities as stipulated within the proposal for Regulation COM(2011) 614 will be helping to better identify the relevant thematic objectives, as the generalized character of these items as stipulated in draft Regulation COM(2011) 615, will make a clear selection difficult. These investment priorities draw a more precise picture, of what is to be understood by the single thematic objectives. It is to be borne in mind – however – that these investment priorities as well as the thematic objectives are still a “work in progress” as the final Regulation texts may come up with some changes.

1.4 The Methodology of the analysis

The study includes the following three phases:

- ▶ Phase 1: Methodology and tools
- ▶ Phase 2: Territorial analysis on challenges, needs and potentials
- ▶ Phase 3: Strategic orientation CENTRAL EUROPE 2014+

In phase 1 the theoretical and methodological approach as proposed in the tender as well as the timeline has been detailed, further developed, drafted and documented in the Inception Report. The report laying down the methodology has been reviewed and commented by the Steering Group. The methodological approach is illustrated in Figure 1.

The analysis is planned and can be divided into six major tasks allocated to the three phases. The methodology dealing with them has been developed in phase 1 and presented in the inception report:

1. The challenges for CENTRAL EUROPE:
Based on desk research (regional information, strategic documents from the European Union, further studies) and the specific input from national experts, the main challenges as well as the status quo and main issues are identified setting up the baseline reference. Moreover the relevance and importance of these challenges have been tested within the online survey, which accompanied the second Phase of the study.
2. The needs of CENTRAL EUROPE:
Based on the analysis of strategic documents of different levels (transnational, national, regional) and the primary data (online survey) the main needs are identified.
3. The potentials of CENTRAL EUROPE:
These two approaches feed the SWOT analysis, which identifies in a first step the internal strengths and weaknesses as well as the external opportunities and threats and illustrates in a second step (including phone interviews) existing and possible potentials and barriers. The identified potentials are gathered to future proposals of different developments.

These tasks are presented within this report.

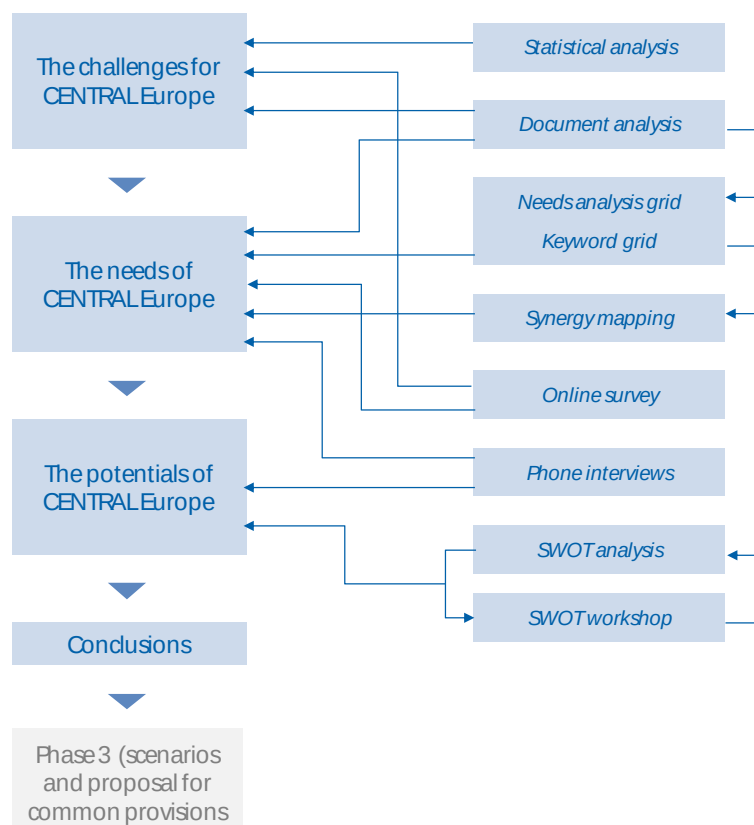
4. Scenarios are going to be developed, which are taking the different possible options for the further strategic orientation of the programme into account. These scenarios will involve the selection of thematic objectives and investment priorities and are going to be consistent with the analysed EU strategy papers as well as with national strategies.
5. The scenarios will be investigated according to the impact on the regions in the CENTRAL EUROPE area along selected core indicators. Moreover using

multi-criteria analysis possible funding scenarios will be compared showing the “room of action”. The first results will be discussed at a synergy workshop with experts and members of the Steering Group.

6. Finally, a proposal for the common provisions is going to be reported.

These tasks will be covered in a separate report after phase 3 of the process.

Figure 1: Course of the analysis (phase 2)



1.4.1 Territorial analysis

Based on collected and analysed materials a cartographic and statistical study was conducted to describe the status quo and the challenges of the CENTRAL EUROPE region (see Chapter 2). The existing data was analysed and shown in maps concentrating on the most relevant data. The main objective was to prepare the data to develop a diagnostic socio-economic situation, which was then used as a basis for the SWOT analysis. The study focused on the most relevant challenges of the CENTRAL EUROPE area.

1.4.2 Document analysis, needs analysis grid and synergy map

Strategic documents on European, transnational, national and regional level (e.g. programming documents, policy papers, etc.) are a main source to identify the existing needs within the CENTRAL area, as these documents already analysed the needs in their region and identified them clearly. (As the needs are very closely linked to stakeholders, additionally the stakeholders view was assessed through an on-line survey and in depth interviews.)

The strategic documents were provided by the geographical experts of the team and by the members of the steering committee. The final list of documents includes 183 entries.

Amongst others, the following documents have been taken into account:

- ▶ Strategic and scientific EU documents, as e.g. the Commission's Europe2020 Strategy, the Commission's legislative package for the new Cohesion Policy 2014–2020, the Territorial Agenda of the European Union 2020,
- ▶ Scientific documents on European level as e.g. the Fifth Cohesion Report, the study Regional Challenges in the Perspective of 2020, ESPON reports and its territorial observations
- ▶ The actual Operational Programme for the CENTRAL area as 2007–2013 well as the Evaluation and the Annual Implementation Reports of the CENTRAL EUROPE Programme
- ▶ National documents concerning national development strategies (spatial development, sustainable development, economic development ...)
- ▶ regional development concepts
- ▶ sectoral national and regional strategy documents, dealing with issues such as transport, climate change or energy

All documents have been analysed along a needs analysis grid in order to synthesise their findings in a standardized and comparable way.

In order to reduce the complexity and to avoid double counting of the needs the next step was to identify 51 main keywords that are describing the groups of relevant needs by using the so-called keyword grid. Similar needs deriving from different strategic documents were combined to one keyword.

For each region within the CENTRAL area a relevance check was conducted describing whether an identified keyword describing a group of needs is relevant for a region. This relevance check was done by the geographical experts based on the results of the document analysis taking into account the territorial analysis and expert knowledge.

In a first check of the relevance of these identified keywords describing the needs, based on the previous literature review, the territorial analysis and the expert knowledge, the geographical experts provided additional information in which of the regions in the CENTRAL area, which needs are highly relevant. For each country as well as for the complete CENTRAL EUROPE area the percentage of regions for which the identified needs were relevant was analysed in order to get a first impression about the relevance of the different needs in the regions of the CENTRAL area.

Taking the needs identified and structured through the keyword grid into account and in order to present a structured synthesis, a synergy map was set up. On one hand it helped to cluster and categorize the data from the literature review. On the other hand some groups of needs as described in the keyword grid were split in order to get a more differentiated picture of the needs within the CENTRAL area. This enabled finally to group the needs along the 11 thematic objectives as laid down in the Regulations. (a 12th category “others” was added, as some of the needs identified could not directly be linked to the 11 categories, especially those that were touching horizontal issues as e.g. demographic change or spatial development patterns.)

At the end we can conclude on 75 relevant needs in the CENTRAL area based on the analysis of the strategic documents. These analysis of the needs deriving from the strategic documents are further combined with the results from the online survey and the interviews leading to a common picture of the needs within the area.

1.4.3 Online survey

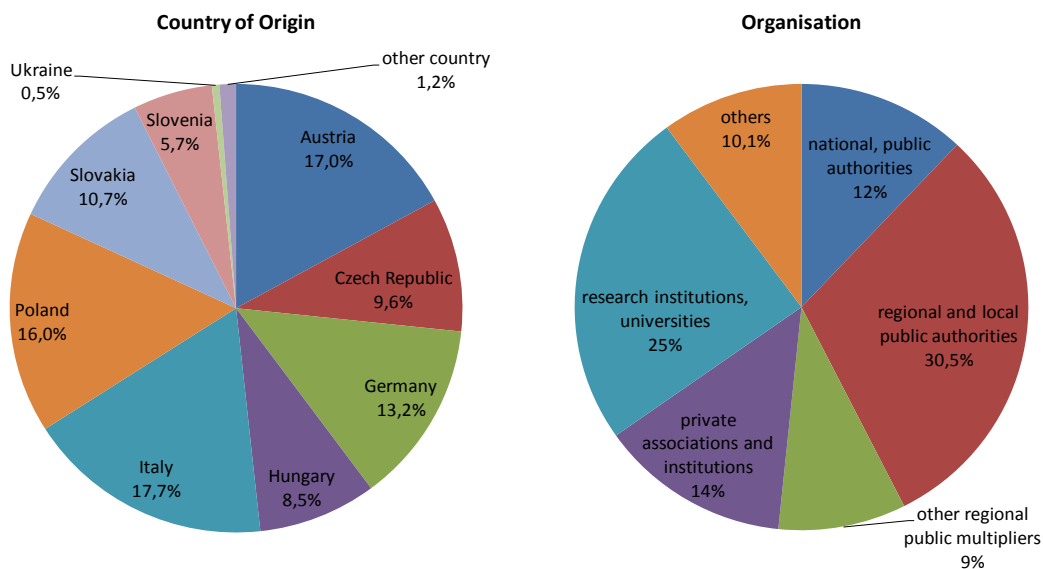
The online survey aimed at collecting perceived needs, suggestions, and strategic addresses directly from a broad group of different relevant stakeholders. Those have been invited via mailing lists (JTS, others) and via the CENTRAL EUROPE webpage, as well as via NCPs on the websites of national institutions. The online survey was programmed in a CMS webform tool and included default options and text fields for optional free answers. The complete list of questions can be found in the Annex of this report.

1.613 users participated in the survey (in the sense of page impressions, many may have been doubles) of whom 934 completed the survey by pressing the “submit” button. Only these 934 answers have been analysed. Out of these, most came from Italy (165), Austria (159) and Poland (149). 16 participants came from Ukraine or countries not in the CENTRAL EUROPE space (Figure 2). The types of organisation the participants came from were diverse; however, almost half of them (43%) were from national, regional or local public authorities. Participants from universities and research accounted for one quarter of the submissions while the remaining 32% were composed of semi-public and private stakeholders (Figure 2). 6 to 7% of the

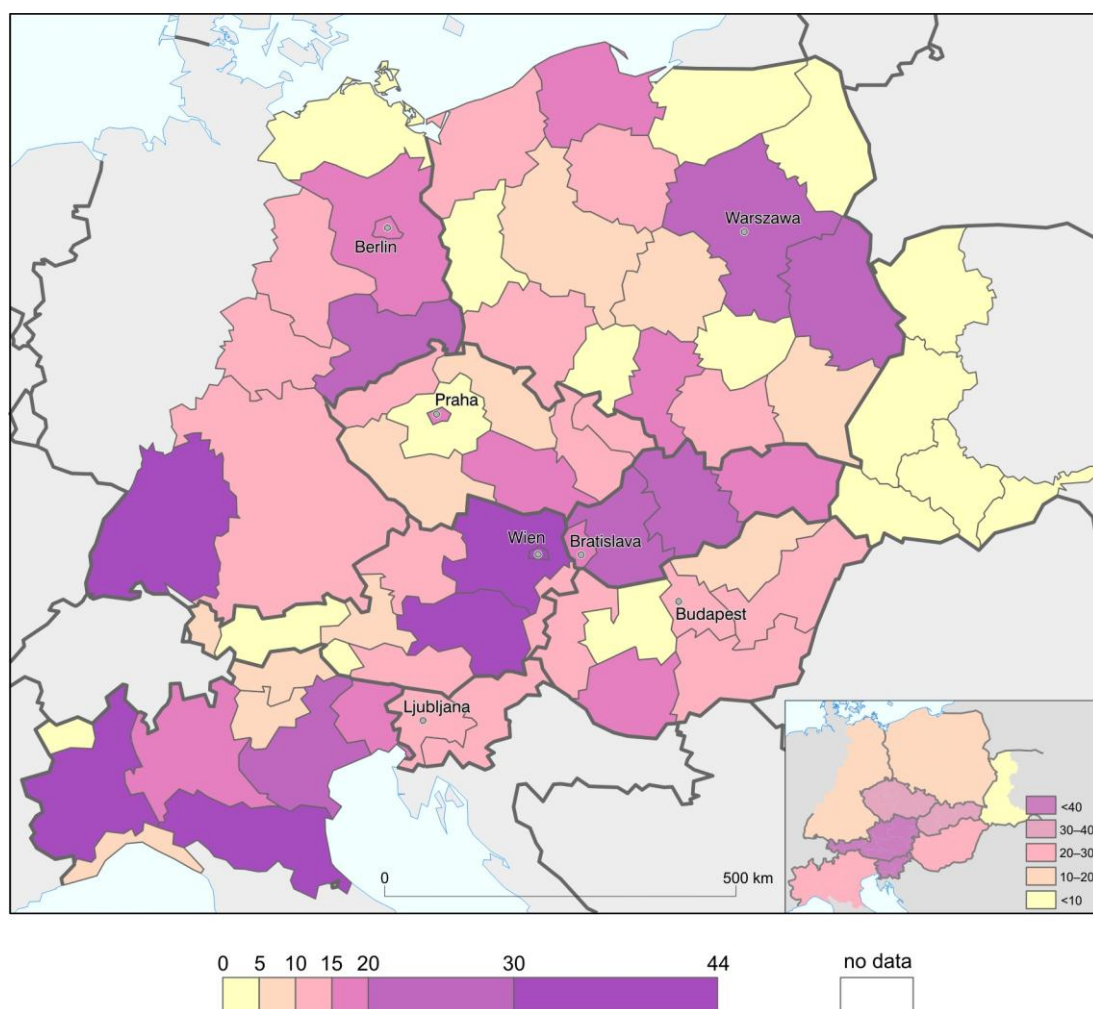
participants selected “other” and indicated that they would come from some sort of private company, many of them consultancy agencies. However, most of the participants in the “other” category stem from public or semi-public institutions such as development and funding agencies, public companies or other public equivalent bodies. So it can be stated that the result of the online survey pictures to a high degree (around 3/4) the view of the public sector, which anyhow accounts for 37% (Slovak Republic) to 51% (Austria) of national expenditures in relation to the entire domestic product (46% in average in the participating countries).

Unsurprisingly, the centrally organised countries in general had more participants with a national view rather than a regional (Figure 2). Map 1 depicts the regional distribution of the participants with regional or national focus.

Figure 2: Participants in the online survey per country of origin and organisation



Map 1: Participants in the online survey



Large map: participants with regional view, Small map: participants with a national view per country

1.4.4 Phone interviews

In addition to the online survey, phone interviews with main stakeholders of the CENTRAL EUROPE region have been conducted to discuss the outcomes of the online survey as well as the outcomes of the SWOT-Analysis. The main purpose of the interviews was to address the challenges, the needs and the owners of the needs in a more detailed way and to combine identified potentials with further investigations.

Additionally the first ideas for the potential strategic orientation scenarios have been discussed in the interviews.

Five interviews have been conducted in each Member State. The interviewees covered all relevant stakeholder groups and relevant experts in each Member State. The following five groups of interviewees have been covered:

- ▶ National, public authorities, the administration of the (federal) state dealing with transnational cooperation
- ▶ Regional and local public authorities dealing with transnational cooperation as e.g. the administrations of regions (provinces/states) and municipalities
- ▶ Other relevant regional public multipliers (e.g. innovation and development agencies and foundations);
- ▶ Relevant private associations and institutions (e.g. potential project partners, enterprises, NGOs etc.)
- ▶ Private and public research institutions, universities and other experts in the field of regional development and regional cooperation

It has to be pointed out and acknowledged, that this exercise was not to be understood as representative survey in itself. The statistical representativeness was completely missing and a fair representation of the single MS in the sheer number of interviews as well. The interviews have been serving as additional input into the identification of regional needs and future thematic fields for the CENTRAL programme and deepened the findings from the preliminary SWOT analysis as well as the findings from the online survey.

1.4.5 SWOT analysis and SWOT workshop

The SWOT analysis is an analytical tool to assess the efficiency of policies and to get an overview highlighting positive and negative aspects for different policy and development options. A SWOT-analysis provides a formal way of identifying the internal factors (strengths and weaknesses), and external factors (opportunities and threats).

In a further step, the combination of these identified internal and external strengths, weaknesses, opportunities and threats leads to potentials and barriers identified for the CENTRAL EUROPE region.

Table 3: Scheme for the SWOT analysis

SWOT ANALYSIS		internal factors/information	
		Strengths – Strength 1 – Strength 2 – ... – Strength n	Weaknesses – Weakness 1 – Weakness 2 – ... – Weakness n
external factors/information	Opportunities – Opportunity 1 – Opportunity 2 – ... – Opportunity n	existing potentials	possible potentials
	Threats – Threat 1 – Threat 2 – ... – Threat n	possible barriers	existing barriers

It also shows which potentials are resulting from the combination of the internal strengths of a region with the possible opportunities, identified from external strategic documents or current trends. On the other side, the analysis shows, how difficulties in the analysed regions (weaknesses) can illustrate a possible potential, if combined with current trends and possible opportunities.

2. The main challenges the CENTRAL area is facing – describing the baseline

2.1 Territorial analysis

The CENTRAL EUROPE PROGRAMME includes eight Member States (Czech Republic, parts of Germany, parts of Italy, Hungary, Austria, Poland, Slovenia and the Slovak Republic) and one permanent observer (the west part of Ukraine). As a partner cooperating with the programme, Ukraine is a member of the monitoring committee and can participate in the programme, but has to provide its own funds.

Map 2: Location of CENTRAL EUROPE with respect to the continent



Source: IGSO PAS

The area of cooperation includes 75 units of NUTS 2-level regions and 5 regions of Ukraine.

Table 4: Administrative regions in the CENTRAL EUROPEAN region

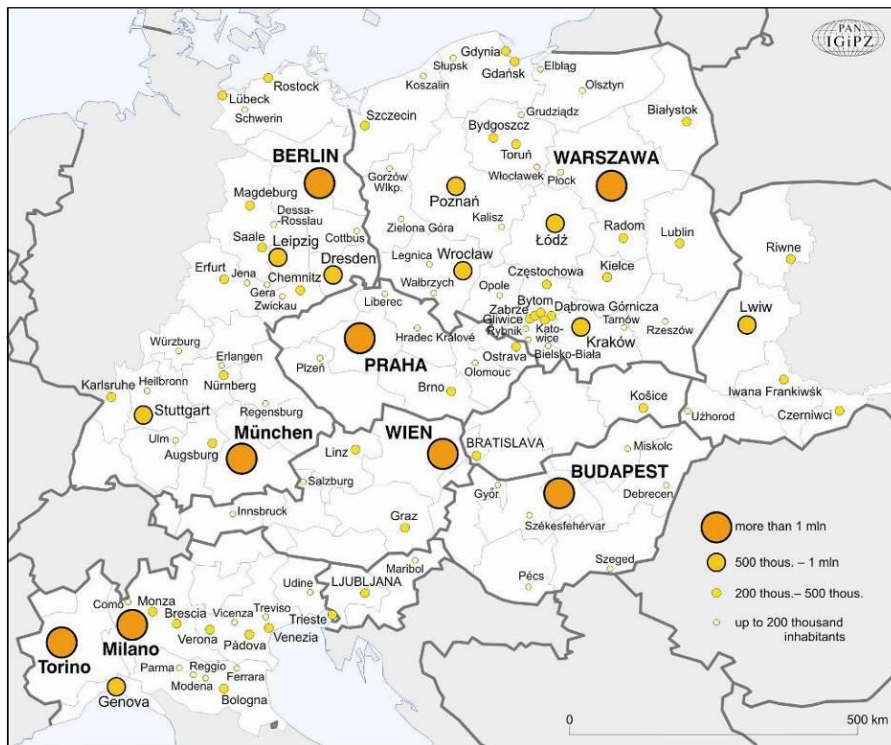
Country	Regions (NUTS 2)
Austria	<i>Burgenland, Karnten, Niederosterreich, Oberosterreich, Salzburg, Steiermark, Tirol, Vorarlberg, Wien</i>
Czech Republic	<i>Jihovychod, Jihozapad, Moravskoslezsko, Praha, Severovychod, Severozapad, Stredni Czechy, Stredni Morava</i>
Hungary	<i>Del – Alföld, Del – Dunantul, Eszak – Alföld, Eszak – Magyarország, Közép – Dunantul,</i>

Country	Regions (NUTS 2)
	<i>Kozep –Magyarország, Nyugat – Dunantul</i>
Germany	<i>Berlin, Brandenburg – Nordost, Brandenburg – Sudwest, Chemnitz, Dresden, Freiburg, Karlsruhe, Leipzig, Mecklenburg – Vorpommern, Mittelfranken, Niederbayern, Oberbayern, Oberfranken, Oberpfalz, Sachsen – Anhalt, Schwaben, Stuttgart, Thuringen, Tübingen, Unterfranken</i>
Italy	<i>Emilia – Romagna, Friuli – Venezia Giulia, Liguria, Lombardia, Piemonte, Provincia Autonoma Bolzano, Provincia Autonoma Trento, Valle d'Aosta, Veneto</i>
Poland	<i>Dolnośląskie, Kujawsko–Pomorskie, Lubelskie, Lubuskie, Łódzkie, Małopolskie, Mazowieckie, Opolskie, Podkarpackie, Podlaskie, Pomorskie, Śląskie, Świętokrzyskie, Warmińsko–Mazurskie, Wielkopolskie, Zachodniopomorskie</i>
Slovakia	<i>Bratislavský kraj, Stredné Slovensko, Východné Slovensko, Západné Slovensko</i>
Slovenia	<i>Vzhodna Slovenija, Zahodna Slovenija</i>
Ukraine	<i>Chernivtsi, Ivano–Frankivsk, Lviv, Volyn, Zakarpattia</i>

Source: IGSO PAS

The Central European region, covering an area of over 1 million square kilometres, was home to about 149 million people in 2008. Its high population density (287 inhabitants per km²) puts significant pressure on its spatial structure and the environment. The density varies greatly in different parts of the region: in urban areas it reaches 2–4 thousand people per km² (*Praha* – 2582, *Berlin* – 3872, *Wien* – 4315 inhabit. per km²), whereas in rural areas it decreases to as low as 40 inhabitants per km² (Valle d'Aosta – 39 inhabit. per km²). Even so, it is still more homogeneous than, for example, in the Nordic countries. Over one quarter of Europe's citizens live in the Central European region, which includes 8 cities with a population exceeding 1 million.

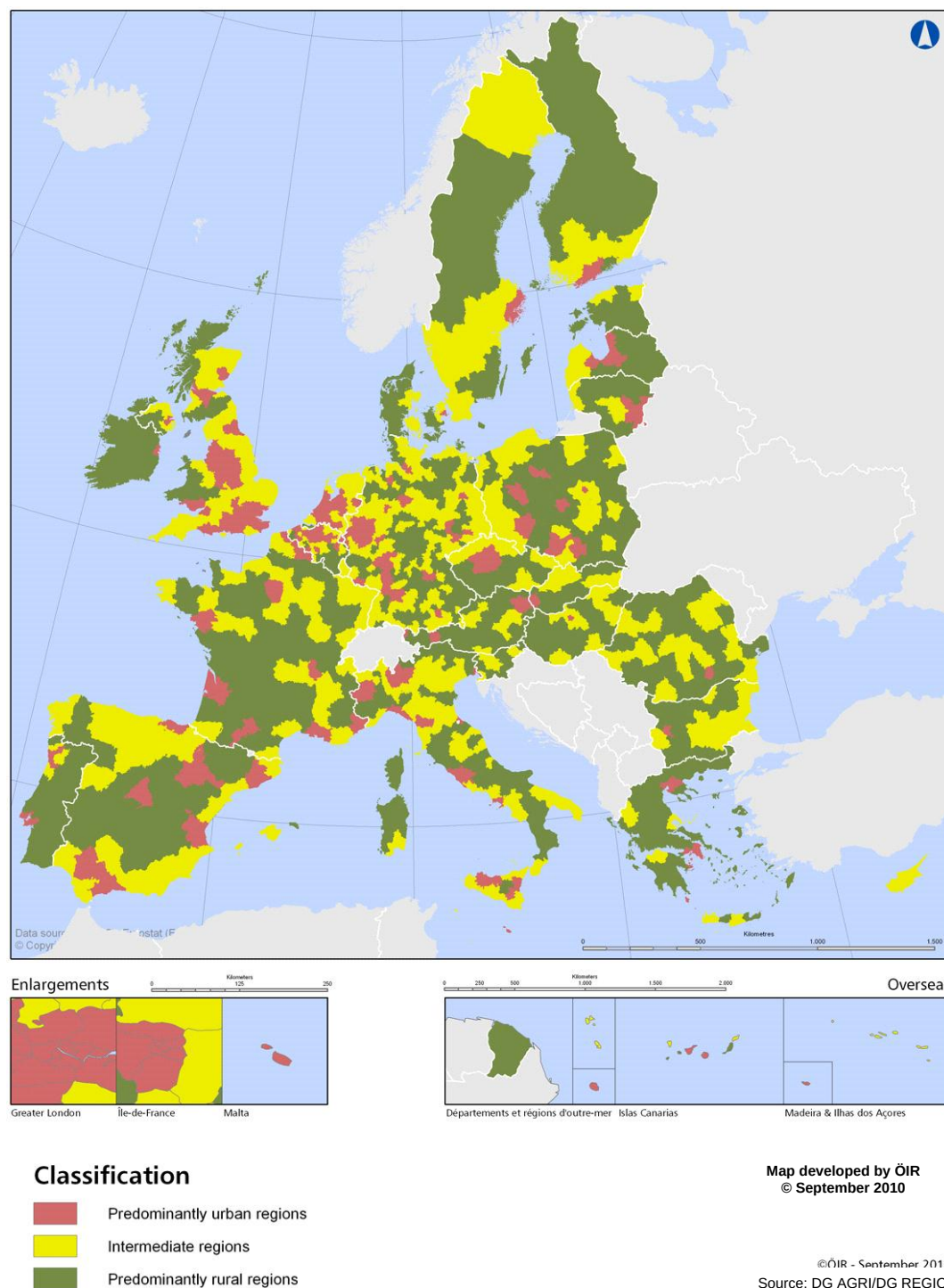
Map 3: The major cities of CENTRAL EUROPE



Source: IGSO PAS

In this region, both polycentric and monocentric structures of spatial development can be found: in some countries the capital city plays the major role in spatial structure, like in Austria, Hungary or Slovakia. On the opposite side of the spectrum, exemplified by Poland, Northern Italy or the Czech Republic, city networks (agglomerations, conurbations) are commonly distinguishable.

Map 4: Urban, rural and intermediate regions at NUTS3 level



Source: OIR, 2010, based on DG AGRI/DG REGIO

Map 4 shows the NUTS3 regions of Europe according to the DG AGRI/DG REGIO classification of rural, urban and intermediate regions. In CENTRAL EUROPE, Northern Italy, Western Poland and regions attached to the main agglomerations can be classified as intermediate regions. The capital regions are predominately urban,

while most of the Alpine regions as well as regions in the Czech Republic, Slovakia, Hungary and Eastern Poland are classified as predominantly rural.

The process of urbanization has a critical impact on the structure of land use in CENTRAL EUROPE (CE). Urban areas, designated for housing, industry and technical infrastructure, are specific to the whole region. The main urbanized areas are located at the Southern foothills of the Alps, around major agglomerations and in industrial areas in North-Italy.

An even and balanced share of the land intended for agriculture (arable land as well as pastures and meadows) makes CENTRAL EUROPE one of the major agricultural regions of the world. Forests play a significant role in determining the structure of the land, covering not only vast areas of the Alps and the Carpathians, but also commonly venturing into coastal regions.

2.1.1 The challenges of the CENTRAL EUROPE area

When trying to describe territorial conditions, the main problem is to define what is a challenge – for whom, in which respect and is this challenge relevant for the analysis in a transnational EU programme – i.e. are these challenges really to be tackled by such a support instrument?

The guiding principle of such an analysis is normally the socio-economic performance of the region, the innovation system (including innovation, technology, R&D, education and qualification), accessibility and the environment (see SWOT of the current CE programming document).

Since the Barca report (Barca, 2009⁴) the paradigm of “evidence based” policy making has been shifted from the general territorial scale of the nations down to the regional level with the emphasis of targeting EU policy support in a more effective manner and addressing regional needs as far as possible. Result orientation of policy is another claim within this context, which will call for a territorial analysis, with following qualities:

- ▶ Regional scale – NUTS 2 or below in order to be detailed enough to differentiate policy support in a way, that regional needs are addressed and regional specifics are taken into account.
- ▶ Orientation upon challenges which are territorially differentiating and which are relevant in a fast changing world (the evolvement of the economic crisis)

⁴ Barca F. (2009): AN AGENDA FOR A REFORMED COHESION POLICY: A place-based approach to meeting European Union challenges and expectations; Independent Report prepared at the request of Danuta Hübner, Commissioner for Regional Policy; Brussels

has shown that EU territorial analysis has not provided us with enough knowledge to cope with shocks)

- ▶ Analysis shall be able to depict complex interrelations of various intervening factors – systemic links between the single characteristics of a territory have to be taken into account and bundled in a way that still allows for reliable results.
- ▶ Long term effects have to be considered adequately (e.g. climate change), but not only on the basis of singular indicators (such as CO₂ emissions), but in a systemic way, which better suits the complex character of these phenomena.

The EU has published several territorial analysis studies, following these general prerequisites and providing foresight pictures of the EU. They are published in different contexts, but they have been used to identify the most relevant territorial challenges the EU is facing: Regions 2020⁵, Scenar 2020⁶, ESPON 3.2.⁷

All these studies list several challenges for the EU and we have taken on board the eight challenges, which are listed in all of them:

- ▶ Globalisation/economic development
- ▶ Accessibility
- ▶ Demographic Change
- ▶ Social Cohesion
- ▶ Climate Change
- ▶ Energy
- ▶ Environment
- ▶ Governance Issues

The territorial analysis of the challenges of the CE area will therefore look at these territorial challenges and analyse the situation of the regions within the CE programming area.

In order to stay compatible with the thematic objectives as stipulated in the draft Regulation – and to allow for the analytical step of identifying the most relevant thematic objectives for the CE area in the end, on the basis of a sound territorial

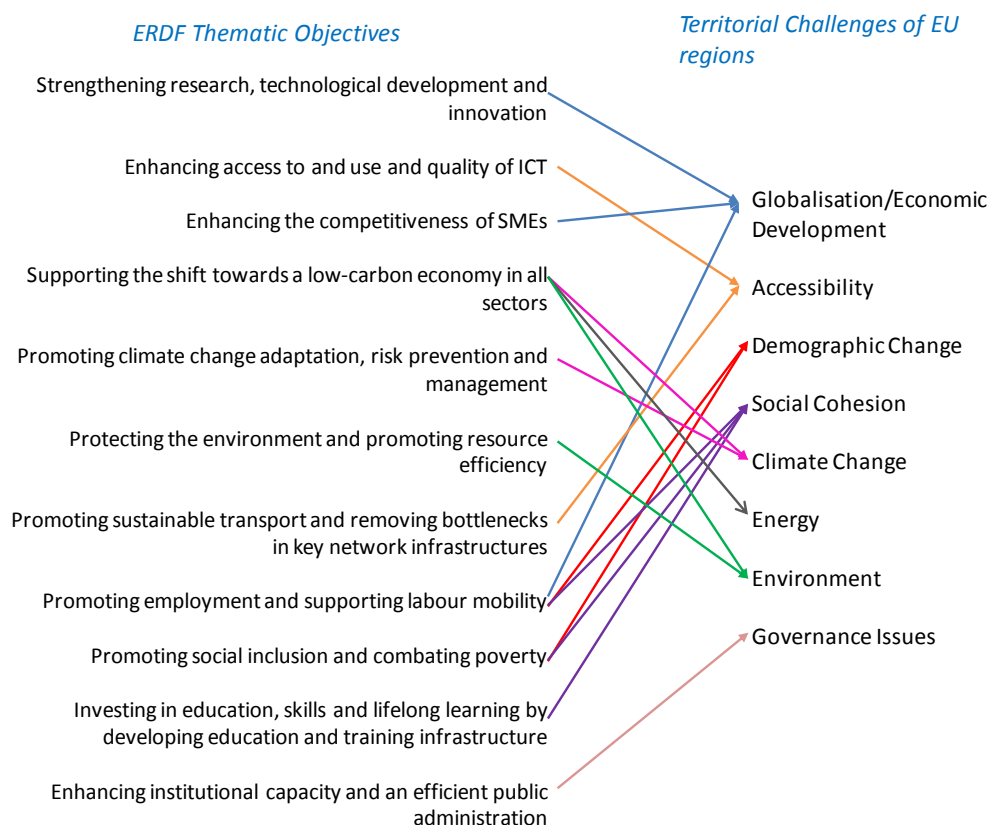
⁵ OIR et al. (2011): Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis; research study Commissioned by European Commission, Directorate General for Regional Policy, Unit C1 Conception, forward studies, impact assessment; Vienna/Heisdorf/Bonn

⁶ ECNC et.al. (2007): Scenar 2020: scenario study on agriculture and the rural world; contact study commissioned by DG Agriculture, Directorate G: economic analysis and evaluation; Brussels

⁷ ESPON 3.2 (2006): Spatial Scenarios and Orientations in relation to the ESDP and Cohesion Policy – Final Report, Volume 3: Final Thematic Bases and Scenarios; Brussels

analysis as well as the SWOT analysis, it will be necessary to establish a cross-reference between the eleven thematic priorities as stipulated in the draft Regulation and the eight challenges:

Figure 3: Establishing the link between the ERDF thematic objectives and the territorial challenges of EU regions



Globalisation/economic development: is a challenge, we approach as a twofold process. First, it is a “process where local economies and social systems experience a rapid increase in their sphere of action and their reciprocal interdependence” (European Commission, 2009⁸). Second, the globalisation process is intimately linked to the emergence of a new economic order. In this system, the increasing role of international bodies such as the WTO, the IMF, the G-20 and Central Bank Governors is often emphasized (Cohen, 2006⁹). New modes of financial accumulation also play a determining role by conferring an increased relative weight and greater power in the systems of economic governance to actors of the financial sector. Additionally, the growth and assertion of transnational corporations (TNC) is a component of the globalisation process. The region can be approached as a point of convergence between a number of international dynamics emerging in the

⁸ Commission of the European Communities, Directorate-General for Economic and Financial Affairs (EC 2009-1), ‘Impact of the current economic and financial crisis on potential output’, EUROPEAN ECONOMY. Occasional Papers No 49. 2009.

⁹ Cohen D. (2006): Globalization and its enemies; MIT Press; Cambridge, Mass. [u.a.]

context of regulatory frameworks established in interaction between TNCs and international regulatory bodies *and* the region's characteristic features. Among these features, geographic specificities such as a peripheral or central position and a high or low population density may play a significant role; however, the inherited social structures, e.g. in terms of income disparities and distribution of groups at the intra-regional level, must also be considered. Finally, the orientation of the regional economy is crucial for being capable of asserting itself and competing in a globalising context. Correspondingly, the analysis of the challenge of globalisation in territorial terms does not only refer to the primary division of the EU, e.g. into East and West, nor solely to the commonly discussed urban-rural division. While these territorial characteristics admittedly matter, the regional economic profiles and functions are crucial for global competitiveness and global integration.

Taking this underlying definition into account the links of this challenge to the thematic objective “strengthening research, technological development and innovation” is obvious. Regions will only be able to assert themselves and compete in a globalized context if R&D, innovation and technological development is fostered and employed to its utmost limits. Another obvious thematic objective, which might be related to the challenge of globalisation is the “enhancing the competitiveness of small and medium-sized enterprises”. SMEs form the majority of business entities all over Europe and are the biggest employers. Thus as long as these enterprises stay competitive, the regional well-being will be ensured. As underlying factor for keeping up competitiveness the availability of all production factors will be necessary – particularly the availability of a sufficiently trained workforce will become the key factor for competing in a globalized world. Thus the thematic objective of “promoting employment and supporting labour mobility”, will be another related issue.

Accessibility: All types of demographic and economic polarisation are largely influenced by levels of accessibility at different geographical scales and based on different modes of transportation. However, it has to be taken into consideration that accessibility is not the only influencing factor and that both European/international accessibility as well as regional connectivity are important factors for increasing competitiveness. The first factor within this challenge is mobility, which is crucial for the international exchange in a globalised economy. People, capital, goods and services become increasingly mobile in the interactive milieu of the global economy. They constitute a wide range of networks, embracing scientific knowledge, technology, production, service, finance, culture and many more. The second aspect is differences in levels of accessibility, which largely determine the capacity of individual regions to position themselves in the flows of goods and services. Contradictions may arise between the aspirations to position Europe in global systems of flows, and the concern for intra-European territorial cohesion. In this regard, peripherality has been considered in terms of the geographical distance of an area from the ‘core’, with distance being a surrogate for higher transport and communication costs resulting in poorer access to markets

and resources, such as capital and innovations (McQuaid, 2000¹⁰). The challenge is to ensure a minimum level of accessibility in all regions and it comprises not only the interconnectivity between hubs and centres (as expressed in the TEN), but also the different transport modes on the different regional/local levels. Moreover the aspect of accessibility of ICT infrastructure has been gaining importance in a globalized world.

The two obvious thematic objectives of the draft Regulation are therefore “enhancing access to, and use and quality of, information and communication technologies” and “promoting sustainable transport and removing bottlenecks in key network infrastructures”, which are closely related to this challenge.

Demographic Change: The territorial challenges previously listed under globalisation strongly depend on demographic developments, with regions drawing their power from the consumption behaviour and the labour force of their inhabitants. As such, the current demographic change might influence many regions’ economic activities. Regional competitiveness is a complex system with numerous interrelated elements affecting both public and private activities. Demographic flows, i.e. births, deaths and migration, change the size, composition and regional distribution of population stocks. For instance, labour markets are exposed to a permanent exchange of the active segment of the population. Dynamics in the formation of private households influence the demand side of housing markets, the need for public goods and for infrastructures. To avoid any unwanted conflicts, adjustment activities must be constantly refined into a coherent framework in order to maintain and improve territorial cohesion.

In this sense demographic change is an underlying challenge for a lot of issues represented in the thematic objectives of the draft Regulation, but the directly related ones are “promoting employment and supporting labour mobility” – with the obvious link between a shrinking work force and the basic long-term driving force of European demographic change, which is a fertility rate that is below the reproduction level and which implies that every generation of women will bear fewer children than their own or their mothers’ generation. The effect leads to a shrinking population if this loss is not replaced by a migration surplus from within or outside the EU. The other thematic objective closely related to this challenge is “promoting social inclusion and combating poverty” – with the economic aspect of an ageing population, which produces higher social costs. The growing share of elderly and the shrinking portion of young people outline the most urgent component in the challenge of demographic change: the ageing population. An ageing population in combination of shrinking regions will enforce the challenge of social disparities within and among regions.

¹⁰ McQuaid R. (2000). “Implications of European Union Expansion for Peripheral Regions”, *Regional Cohesion and competition in the age of globalization*, Kohno H., Nijkamp P., Poot J. (Eds), Cheltenham : Elgar.

Social Cohesion: this challenge might as well be called social polarisation, as this is the real core of this challenge. The challenge of social polarisation heavily depends on economic progress influenced by globalised markets, changing natural conditions influenced by climate change, demographic aspects such as the workforce and its skills, and affordable and secure energy. The unequal distribution of material or immaterial resources in a society hampers equal access to public and private services and affects the opportunities to participate in society. This in turn leads to self-reinforcing social inequity which affects every sphere of socio-economic life. The aspects incorporated within this challenge are the increasing youth unemployment and the transformation of labour markets due to a globalized economy. As a consequence the increasingly uneven distribution of wealth and income disparities are contributing to this challenge. Last but not least the quality of life – as best expressed by the access to Services of General Economic Interest (SGEI) is a decisive factor of this challenge.

The thematic objectives directly related to this challenge are “promoting employment and supporting labour mobility” – as a promotion of employment will decrease social disparities within and among regions. However the support of labour mobility may show some counter effects with respect to social cohesion among regions, as an improved labour mobility may cause further brain drain in specific regions thus increasing the gap of core and periphery. Another thematic objective directly related to this challenge is “promoting social inclusion and combating poverty”, which is obvious and hitting the core of this challenge with respect to the need of decreasing income disparities and providing minimum standards of social support for everyone in the EU. Finally the thematic objective “investing in education, skills and lifelong learning” may be included in this challenge, as this objective directly addresses a counter measure and pro-active remedy against social disparities. Improved education and skills are the best way of keeping social disparities at bay and ensuring that regions are up to the challenge of globalisation in due course.

Climate Change: In contrast to the other challenges analysed, climate change does not only influence the human sphere but the entire global ecosystem. It is a global threat the importance of which grows over time, as long as green house gas (GHG) emissions are not reduced to permissible limits. The effort needed to reach the goals indicated by climate science is enormous and the main burden lies in the hands of the industrialised countries. Mitigating climate change therefore requires significant contributions from Europe and its regions. Ongoing and future climate change affects Europe in many different ways and in all economic sectors. Exposures and impacts differ by region, but all regions need to adapt to inevitable changes. Many of the impacts are detrimental in most regions and need to be alleviated, but some offer new chances for some regions. However, even adapting to threats can offer chances for new jobs, products or services. Thus the climate change challenge consists of two main parts: the challenge to mitigate and the challenge to adapt.

In this context the two obvious thematic objectives, which are related to climate change, are: “supporting the shift towards a low-carbon economy in all sectors” in the sense of climate change mitigation and “promoting climate change adaptation, risk prevention and management”.

Energy: energy is one of the most crucial issues Europe is facing and will be facing in the future. Since 2008, European Regions have been challenged by various crises and changes in the energy markets: the oil price spike of July 2008 and the cut-off of the gas supply from Russia via Ukraine and Belarus had severe effects on account of the fact that Russia provides approximately 25% of the natural gas consumed in the EU. In January 2009, the Ukraine–Russia gas dispute grew from a simple business dispute into a transnational political issue to the point of cutting off the gas supply for twenty-two days. Eighteen Member States reported major falls or cut-offs of their gas supplies (Reuters, 2009¹¹). Additionally, extreme weather events such as the storm Kyrill in January 2007, but also generally increasing extreme high and low temperature periods, temporarily disabled energy infrastructures and energy supply.

The biggest challenge however was the economic and financial crisis, which has massively weakened the final energy demand. There is clear evidence that energy investments in most regions and sectors dropped sharply in 2009. Decrease in energy demand, especially in OECD countries, contributed to a decline in international prices of oil, natural gas and coal, and both supply and demand side investments are being affected. In the oil and gas sector, there are cutbacks in capital spending as well as delays and cancellations of refineries and pipeline projects. Power sector investment is affected by financing difficulties as well because the cost of capital has risen considerably. Lower energy prices and tighter credits make investments in clean energy technologies less attractive. Still, facing the fact of peak oil, in the long run fossil fuel dependency will be a major challenge for the EU economy and a timely paradigm shift in energy supply and energy demand patterns will be crucial to prevent a recession when the energy prices adapt to the supply shortage on the world markets.

Therefore the thematic objective directly related to this challenge is supporting the shift towards a low-carbon economy in all sectors underpinning this need of reducing the EU dependency on fossil fuels and at the same time using this challenge for the development of new economic potentials for EU regions in terms of developing new technologies and creating new employment in this field of “green jobs”.

Environment: this challenge might as well be called environmental decline. The status of the environment is a consequence of various factors: human activity reduces the naturalness of land. The competition of land use causes loss of natural

¹¹ Reuters (2009): FACTBOX – 18 countries affected by Russia–Ukraine gas row. www.reuters.com. 7 January 2009

habitats and landscapes, which as a consequence increases the risk of natural hazards (landslides, flooding). Another aspect is the one of biodiversity loss, which probably poses one of the most serious threats to the global ecosystem. Ecosystem functions are an important asset for economy, even if generally not considered explicitly in economic theory. Natural and semi-natural ecosystems are threatened by human activities and climate change mainly when changes in precipitation and vegetation periods occur. The challenge is the conflict between the general knowledge about the importance of ecosystems and their unhampered functioning, while on the other side human interventions decrease the environmental quality within the EU. The loss of biodiversity and the increase of natural disasters are just symptoms of this dilemma. Environmental protection as stop-loss strategy ensures a minimal status of environmental endowments in Europe.

The thematic objectives of the draft Regulation directly related to this challenge are “protecting the environment and promoting resource efficiency” as the most obvious one – which underpins the defensive strategy towards environmental preservation and ensures a standard of environmental condition in the EU. The thematic objective of “supporting the shift towards a low-carbon economy in all sectors” is also related to the challenge of environmental decline, as an eco-efficient economy will pro-actively reduce the pressure on the environment and it stresses the strong link between climate change issues and the pressure on the environment in general.

Governance Issues: this challenge is related to the increasing demand for an improvement of the governance and management of the European Union. The lack of connectivity between EU decision processes and the citizens is increasingly criticized. This challenge therefore comprises issues like the lack of elements of direct democracy as well as the need for bottom-up approaches in the set-up and administration of policies. The EU initiatives on LEADER and FARNET are good practice examples how such participatory approaches may work. However with the mainstreaming of LEADER and its inclusion in the agricultural policy some elements of general applicability of these approaches have been lost. Another aspect within this challenge is the fairness of administration and the problem of corruption within the EU. Simplification of administrative procedures and the application of modern means of communication are also issues within this challenge.

The draft Regulation addresses this challenge through the thematic objective of “enhancing institutional capacity and an efficient public administration”, which covers in principle most of the aspects of the challenge.

In the following the eight challenges will be analysed for the CE area – depicting its condition and the regional differences within the programming area. The report will use both primary statistical data as well as taking stock of the comprehensive territorial analysis conducted within the study “Regional Challenges in the

Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis” – commissioned by DG Regio.

2.1.2 Globalisation/Economic development

The challenge of Globalisation is directly linked to the economic development, global competitiveness and global integration of regions. In the CE–Area, territorial differences in the extent of the impacts of globalisation processes can be observed at different levels: A primary division into old and new Member States (East and West) can be stated, as well as differences between urban and rural, central and peripheral areas. Additionally, the specific regional economic profiles and functions are crucial for global competitiveness and global integration. In this respect, the economic structure, the level of research, technical development and innovation as well as the competitiveness of small and medium–sized enterprises are important indicators of the economic competitiveness of regions.

Economic development

There are large differences in GDP between old and new Member States of the Community and within CE. The highest level of GDP is recorded in regions that include the national capitals, touristic regions (e.g. Tyrol) and in Germany, Italy and Austria. The lowest GDP per capita was recorded in Poland, Hungary and Ukraine (the data for the whole of Ukraine: EUR 2.348,79 per capita¹²), which can be seen in Map 5. Granted, there are different statistics for countries and individual NUTS 2 regions, significant disparities can also be observed at the local level. These inequalities primarily exist between the peripheral and central areas and at the rural–urban level. A good example of this is *Mazowieckie* Region in Poland. Mazowieckie has the highest GDP in the country, owing largely to the fact that it includes Poland’s capital, Warsaw; however, the same region includes municipalities that are classified as some of the poorest in Poland.

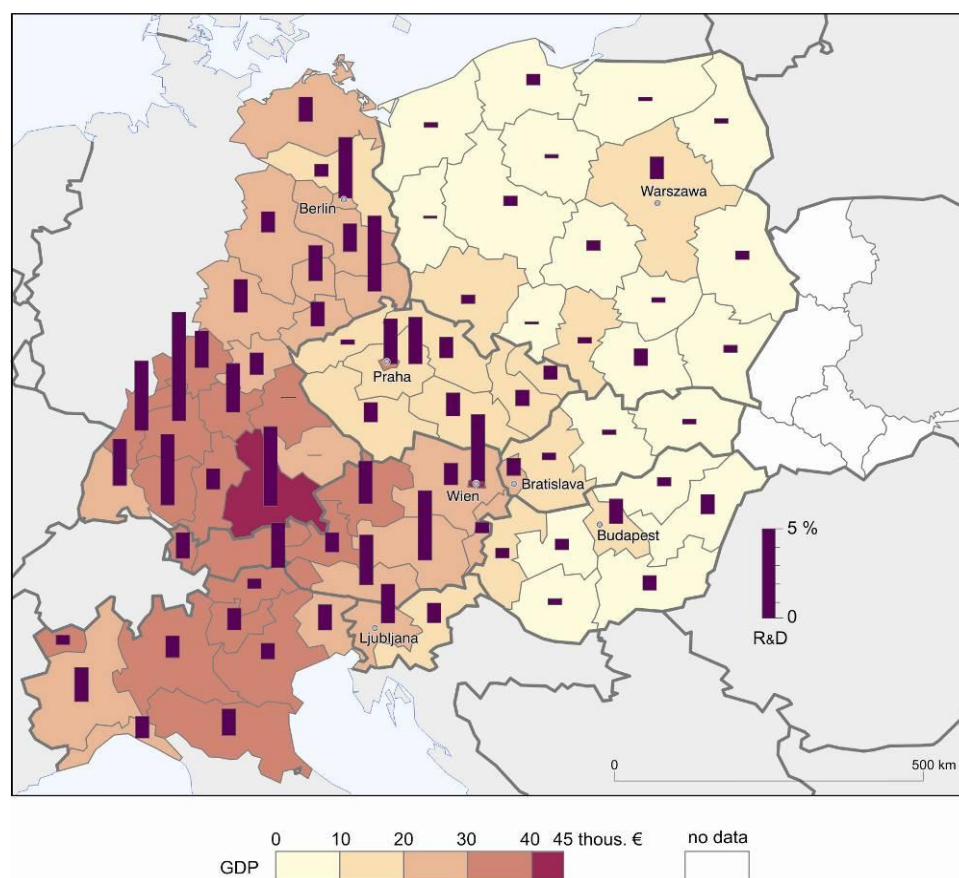
Economic activity (such as accounting, legal and advisory services) and sectors such as financial services, trade, transport and communication services are mainly responsible for the increase of GDP between 1995 and 2010. Concerning the fastest growing business sectors, the service sector can be identified as the one increasing the strongest. Job positions were created mainly in this sector. In the primary and secondary sectors of the economy, the number of employed persons dropped significantly over the last years within the EU.

The concentration of global players and foreign direct investment (FDI) volumes is particularly high in cities and agglomerations, as they predominantly are privileged

¹² <http://ukrstat.org/en> – Ukraine’s national statistical service

locations well placed to maintain competitive advantages through their unique capacity to foster innovation and productivity growth. Agglomeration advantages (e.g. intense business interaction, mutual learning and creativity, high labour force potential, international connectivity) of cities and agglomerations tend to represent disadvantages for many other European regions.¹³ In mono-centric structured countries the above mentioned concentration of FDI in cities and agglomerations leads to great economic disparities between regions.

Map 5: Gross Domestic Product in thousands of euros per inhabitant in current market prices in 2008 and total intramural R&D expenditure (*GERD*) in 2008 (%)



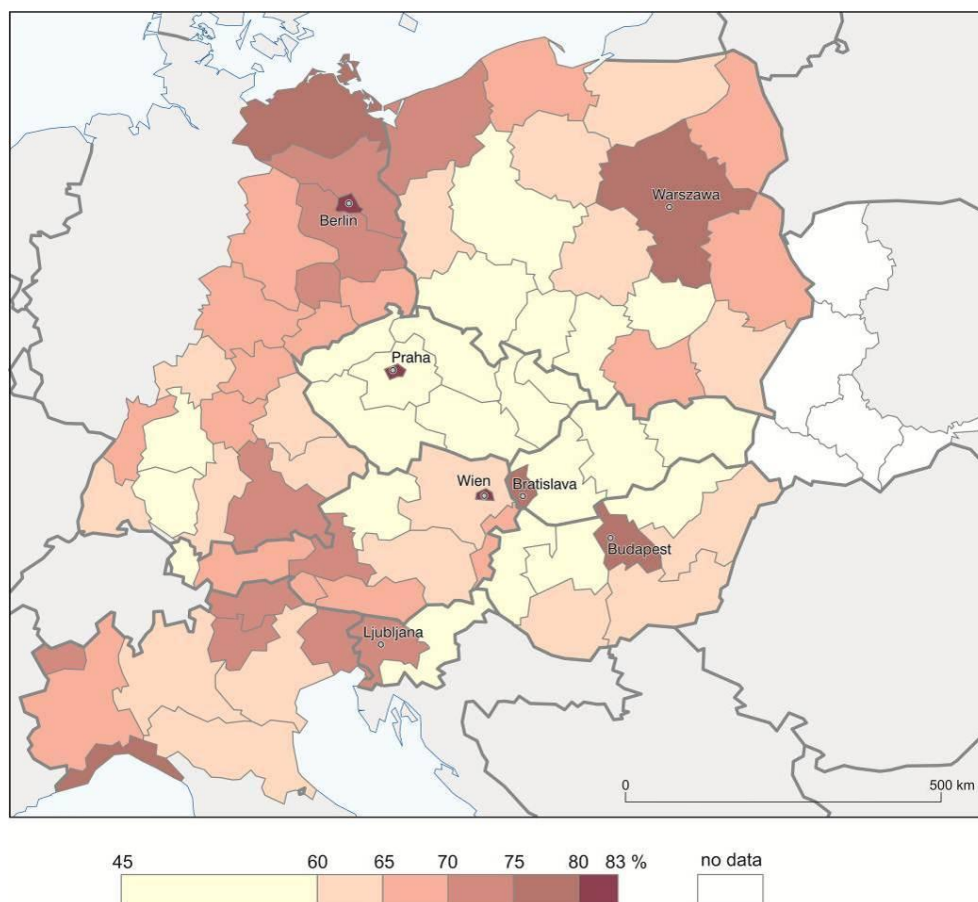
Source: IGSO PAS based on Eurostat, 2008

The following map shows the share of services in Gross Value Added and thus the structure of employment in the tertiary sector. It is highest in urban and suburban areas, as well as in touristic zones like the Alps; conversely, rural areas exhibit the lowest proportions. In the Czech Republic and Slovakia only the capital regions show high shares of employment in the tertiary sector and higher GDP volumes. Other regions in those countries, as well as some parts of Poland and Hungary, still have high employment in industry and agriculture and comparatively low GDP volumes.

¹³ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

Tourism is an important economic factor in CENTRAL EUROPE, especially in remote regions which are far from the economic centres of their country, where tourism-related services are often a prominent factor in securing employment and are one of the main sources of income for the local population.¹⁴ With the global economic crisis, accompanied by decreasing real incomes and rising insecurity concerning future incomes, people's inclination to travel was reduced, which in turn affected the tourism sector.

Map 6: Share of the services (tertiary sector) in Gross Value Added in 2008



Source: IGSO PAS based on Eurostat, 2008

Table 5: Development of overnight stays in CE-Regions after the economic crisis; 2008=100

Country	NUTS2-Region	2009	2010
SK	Východné Slovensko	82	81
SK	Bratislavský kraj	84	83
SK	Západné Slovensko	84	84
SK	Stredné Slovensko	84	85
PL	Lubuskie	86	86

¹⁴ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Tourism_statistics_at_regional_level

PL	Opolskie	90	87
HU	Észak-Alföld	90	91
CZ	Jihovýchod	90	87
...	...	...	...
PL	Lódzkie	105	106
DE	Mecklenburg-Vorpommern	105	103
DE	Berlin	105	116
PL	Swietokrzyskie	106	113
CE	CENTRAL EUROPE	98	98
EU27	EU27	97	-

Source: EUROSTAT, 2012

Due to the economic crisis, the number of overnight stays has dropped 2 % in the CE-Area and 3 % in the EU27 countries between 2008 and 2010. However the impact of the crisis varied greatly between the regions. The biggest losses (up to - 18 %) have been recorded in regions of Slovakia, Poland and the Czech Republic, minor losses or stagnation in the western and southern regions (e.g. Wien: -5 %; Tirol: -3 %; Provincia Autonoma Bolzano/Bozen: 0 %) and increases in some German regions (Berlin: +6 %, Mecklenburg-Vorpommern: +5 %) as well as some Polish regions (Swietokrzyskie: +6 %, Lódzkie: +5 %).

Map 7 shows the tourism intensity (also called carrying capacity) of the CE-Regions in the year 2010. Tourism intensity measures the number of overnight stays in relation to the resident population. This serves as an indicator of the relative importance of tourism for a region. Furthermore, in the context of the sustainability of tourism, it can also be seen as an indicator of possible tourism pressure. In CENTRAL EUROPE, regions in the Alps as well as mayor cities are areas with high tourism intensity. The Italian Provincia Autonoma Bolzano/Bozen had the highest tourism intensity, with 56.571 overnight stays per 1.000 inhabitants in 2010, followed by the Austrian regions of Tirol and Salzburg (47.417 and 36.923 overnight stays per 1.000 inhabitants). The average tourism intensity in the EU-27 was 4.470 overnight stays per 1.000 inhabitants in 2009.¹⁵

Economic development and the economic crisis – an excursus

When looking at the detailed effects of the current economic crisis, in particular on the CENTRAL region, it has to be noted, that most of the regions in the area were less severely harmed than the rest of Europe. The EU study on regional challenges 2020 (Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.) shows that the most challenged aspects in the CE are the manufacturing activities, which were

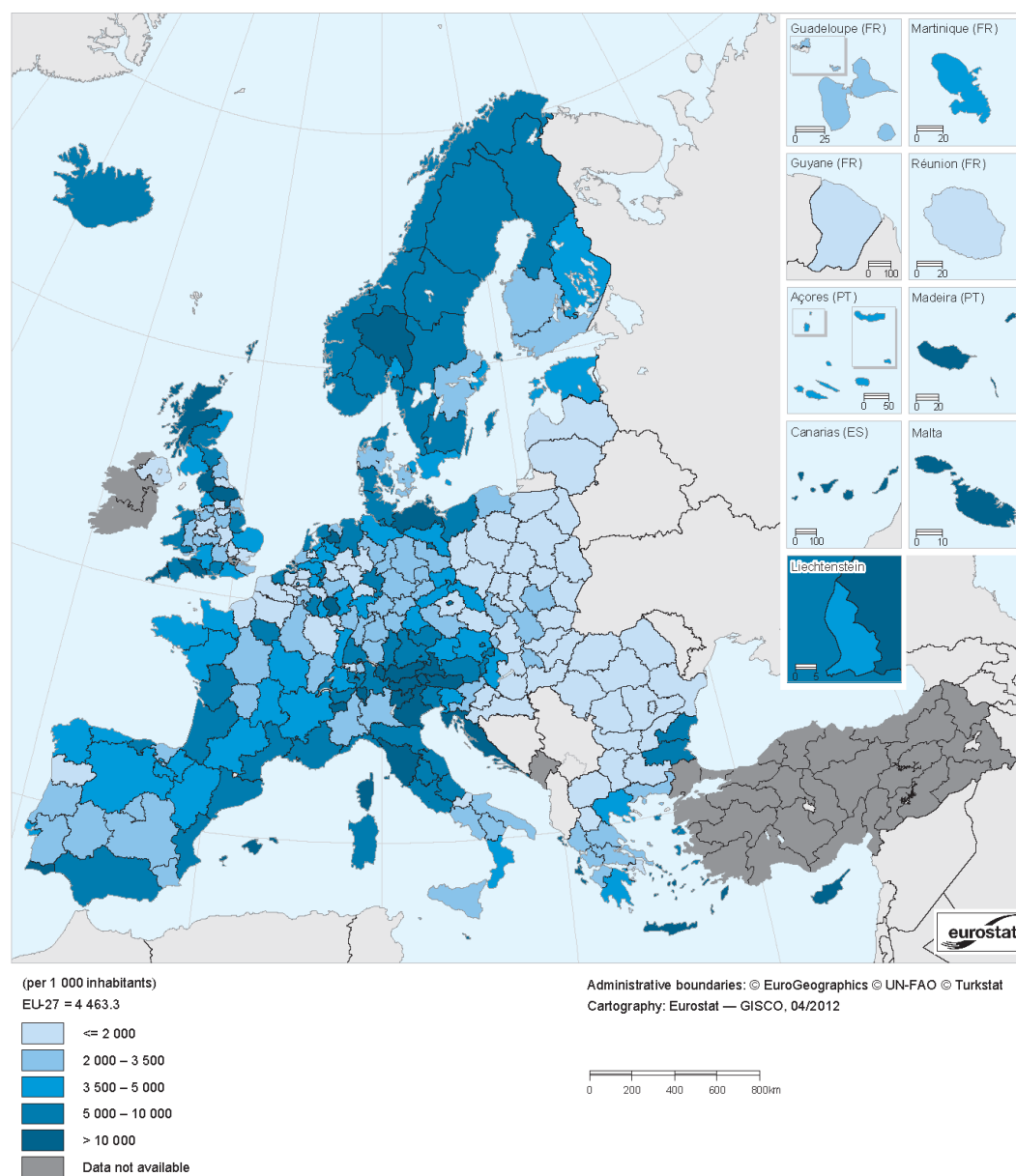
¹⁵ Source: EUROSTAT, 2012

hit hardest in the CE regions compared to the rest of Europe. It also showed, that the economic effects on household incomes have been comparably bad in some parts of the CE area (e.g. Northern Italy, Western Slovakia) – thus resulting in high vulnerabilities there.

Apart from this short term shock the midterm effect of rising unemployment rates in combination with the national austerity programmes put a break on the consumption of households thus hitting some CE regions even harder (see e.g. large parts of Hungary and Slovakia). The territorial effects of these developments within the crisis have been twofold and touch upon different territorial levels:

- ▶ Regional disparities decreased on the one hand within Member States – as urban centres with high proportions of manufacturing and services industries were hit hardest, while the rural areas less so.
- ▶ Interregional disparities increased on the other hand – as some specialised regions were hit more than others (see e.g. Northern Italy)

Map 7: Tourism intensity, nights spent in hotels, campsites and other collective tourist accommodation, by NUTS 2 regions, 2010



(*) Nord-Est (ITD), Centro (ITE) and Hungary, provisional; EU-27, Belgium, Chemnitz (DED1), Dresden (DED2), Leipzig (DED3), France, Luxembourg, the United Kingdom and Norway, 2009; Switzerland, hotels and campsites only; Ciudad Autónoma de Ceuta (ES63); Ciudad Autónoma de Melilla (ES64); Guadeloupe (FR91); Martinique (FR92); Guyane (FR93); Réunion (FR94), hotels only.

Source: Eurostat (online data code: [tour_occ_nin2](#) and [demo_r_d3avg](#))

Source: EUROSTAT, Statistics Explained¹⁶.

¹⁶

http://epp.eurostat.ec.europa.eu/statistics_explained/images/8/8e/Tourism_intensity%2C_nights_spent_in_hotels%2C_campsites_and_other_collective_tourist_accommodation%2C_by_NUTS_2_regions%2C_2010_%281%29_%28per_1_000_inhabitants%29.png

In a macroeconomic perspective the medium term developments are still evolving and with the ongoing crisis of the EU monetary union the following economic development is to be envisaged for the CE area:

The fact that the CE area is split up in EU monetary union members (Austria, Italy, Germany, Slovenia and Slovakia) and non- EU monetary union members (Hungary, Poland and the Czech Republic) will play an increasing role with respect to the overall economic development. As the EU monetary union is entering into a more expansive monetary policy, the relative inflation levels will rise for its member states. This will mean a deflation of the capital assets on the one hand and of debts on the other hand. Evasive behaviour will lead to increased demand for capital goods – such as land and real estate – which might affect also the non-EU monetary union members and will lead to an increase in real estate prices and expenditures for housing.

Within the CE area this will mean that regions with higher household incomes will be hit hardest by this development (Germany, Austria and Italy), while the spill-over effects in terms of price increases may also affect the non-EU monetary fund members.

The movement of services and goods:

Trade and the exchange of services and goods are the backbone of the European Union. Benefits from the free movements of production factors and consumer goods have created wealth and prosperity within the EU. Trade in goods between Member States (intra-EU trade) was valued – in terms of dispatches – at EUR 2 538 393 million in 2010; this was almost twice the level of exports from the EU-27 to non-member countries. The importance of the internal EU market was underlined by the fact that for each of the Member States, intra-EU trade of goods was higher than extra-EU trade (see Figure 5). However, the proportion of total trade in goods accounted for by intra-EU and extra-EU flows varied considerably across the Member States, reflecting to some degree historical ties and geographical location. The highest shares of intra-EU trade (about 80 %) were recorded for Luxembourg, the Czech Republic and Slovakia, with this ratio falling close to 50 % in Greece and the United Kingdom.

Intra EU-27 trade – measured by dispatches – increased by 16 % in 2010; this was a lower rate of increase than that recorded for extra-EU exports (up 23 %). Considering arrivals and dispatches together, the biggest increases in intra-EU trade were registered for Estonia, Lithuania, Sweden and Latvia, up by over 25 %,

while Greece (-8 %) and Malta (-3 %) were the only Member States to record a reduction in intra-EU trade in 2010.¹⁷ – for more details see Table 6 below.

Table 6: Intra EU-27 trade, 2005 and 2010 (EUR 1 000 million)

	Dispatches		Arrivals		Balance	
	2005	2010	2005	2010	2005	2010
EU-27	2 215.5	2 538.4	2 142.9	2 461.2	72.6	77.2
Belgium	206.2	227.4	184.7	206.2	21.5	21.2
Bulgaria	5.5	9.5	7.8	11.2	-2.3	-1.8
Czech Republic	53.7	84.2	50.1	71.3	3.6	12.9
Denmark	48.4	48.6	43.1	45.2	5.2	3.5
Germany	501.6	578.3	402.7	512.3	98.9	65.9
Estonia	4.8	6.0	6.3	7.4	-1.4	-1.4
Ireland	56.2	51.3	36.8	30.4	19.5	20.8
Greece	8.6	10.1	25.5	24.3	-16.9	-14.2
Spain	112.0	125.6	148.9	136.6	-36.9	-10.9
France	236.5	239.0	273.7	312.0	-37.2	-73.1
Italy	183.7	193.3	183.8	200.4	-0.2	-7.1
Cyprus	0.9	0.7	3.5	4.5	-2.6	-3.8
Latvia	3.2	4.8	5.3	6.6	-2.1	-1.8
Lithuania	6.2	9.6	7.4	10.0	-1.2	-0.4
Luxembourg	13.6	12.4	12.8	14.7	0.7	-2.3
Hungary	40.9	55.5	37.4	45.0	3.5	10.5
Malta	1.0	0.8	2.3	2.0	-1.3	-1.2
Netherlands	260.7	333.0	144.6	181.9	116.1	151.1
Austria	72.3	81.8	82.4	92.7	-10.1	-10.9
Poland	56.5	92.3	61.5	91.8	-5.0	0.5
Portugal	25.0	27.6	39.9	43.2	-14.9	-15.6
Romania	15.6	26.9	20.5	33.9	-4.9	-7.0
Slovenia	10.5	15.8	13.0	15.4	-2.4	0.5
Slovakia	22.3	41.7	21.7	36.5	0.7	5.2
Finland	29.9	29.0	31.5	33.2	-1.6	-4.2
Sweden	62.1	68.4	63.2	75.2	-1.1	-6.9
United Kingdom	177.4	164.9	232.6	217.2	-55.2	-52.4

Source: Eurostat (online data code: tet00039)

In terms of trade flows within the CE area, a clear cut delimitation of flows of goods and services within its regions is not possible. As could be seen from Table xx above, there is no origin/ source related information available on a regional basis, which may identify the exchange intensity of goods and services within the CE programming area. It is safe to say however, that the intra-trade within CE is well developed, but trade relations are not only covering the regions within but to far larger extent the rest of Europe and the world, which is only logical due to the strong connectedness of CE to the world markets.

Research, technical development and innovation

When analysing the percentage of GDP spent on Research and Development, disparities between different regions of CE can be noted. The old EU countries dedicate more funds to these ends, thus contributing to the increased innovation

¹⁷ See http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/International_trade_in_goods

and competitiveness of their economies. This is due to specialization in more traditional sectors, but also due to the difficulties in developing businesses outside the country and access to finance. New EU member states allocate less funding for research and development. The only areas that have higher R&D-rates are those in which capital cities are situated. Higher expenses on R&D make these regions more attractive in terms of the number and quality of workplaces. They attract a strong and well-educated workforce. Map 8 shows that only the Western part of the CE area and the urban centres of the Eastern regions displayed significant levels of R&D in 2008, while the Eastern CE regions were clearly lagging behind.

The Innovation Union Scoreboard (IUS), a tool which is meant to help monitor the implementation of the Europe 2020 Innovation Union¹⁸ flagship, provides a comparative assessment of the innovation performance of the EU27 Member States. Based on 25 indicators which cover main drivers of innovation external to the firm (e.g. R&D expenditure in the public sector), innovation efforts at the level of the firm (e.g. SMEs innovating in-house) and the effects of firms' innovation activities (e.g. employment in knowledge-intensive activities), a composite indicator, the so-called 'Summary Innovation Index (SII)' has been developed. This indicator gives a summary picture of the innovation performance of the Member States. In the CENTRAL EUROPE Area Germany is labelled as an 'Innovation Leader', Austria and Slovenia show a performance close to that of the EU27 ('Innovation Followers') and Czech Republic, Hungary, Italy, Poland, and Slovakia show a performance below that of the EU27 ('Moderate Innovators').¹⁹ However, this analysis doesn't take into account the regional differences, which are rather significant in the CENTRAL EUROPE area (as shown in Map 8).

One method of measuring the percentage of population employed in science and high technology is HRST (human resources in science and technology). The highest share of HRST is reported in Prague, where 50,6% of the labor force work in R&D²⁰. The biggest differences can be observed between capital cities and rural areas; this finding was also evident in the case of expenditure on R&D. The capitals of countries and regions often constitute the target work area for the highly skilled, exhibiting, for instance, a high concentration of head offices of companies and government institutions. Universities and scientific institutions also demonstrate a heavy preference for large cities. In Map 8, we see the proportion of researchers in the total number of employees in all sectors. These are people who benefit directly from and use the money spent on R&D. The highest share of researchers employed in all sectors can be identified in regions which include the capital of a country or very big cities such as Munich or Stuttgart, while the lowest level is typically found in rural areas. Most of the predominantly urban regions, but as well intermediate regions exceed the mean of EU-27 (1,01 %). The example of Berlin serves well to

¹⁸ See http://ec.europa.eu/research/innovation-union/pdf/innovation-union-communication_en.pdf

¹⁹ See http://ec.europa.eu/enterprise/policies/innovation/files/ius-2011_en.pdf

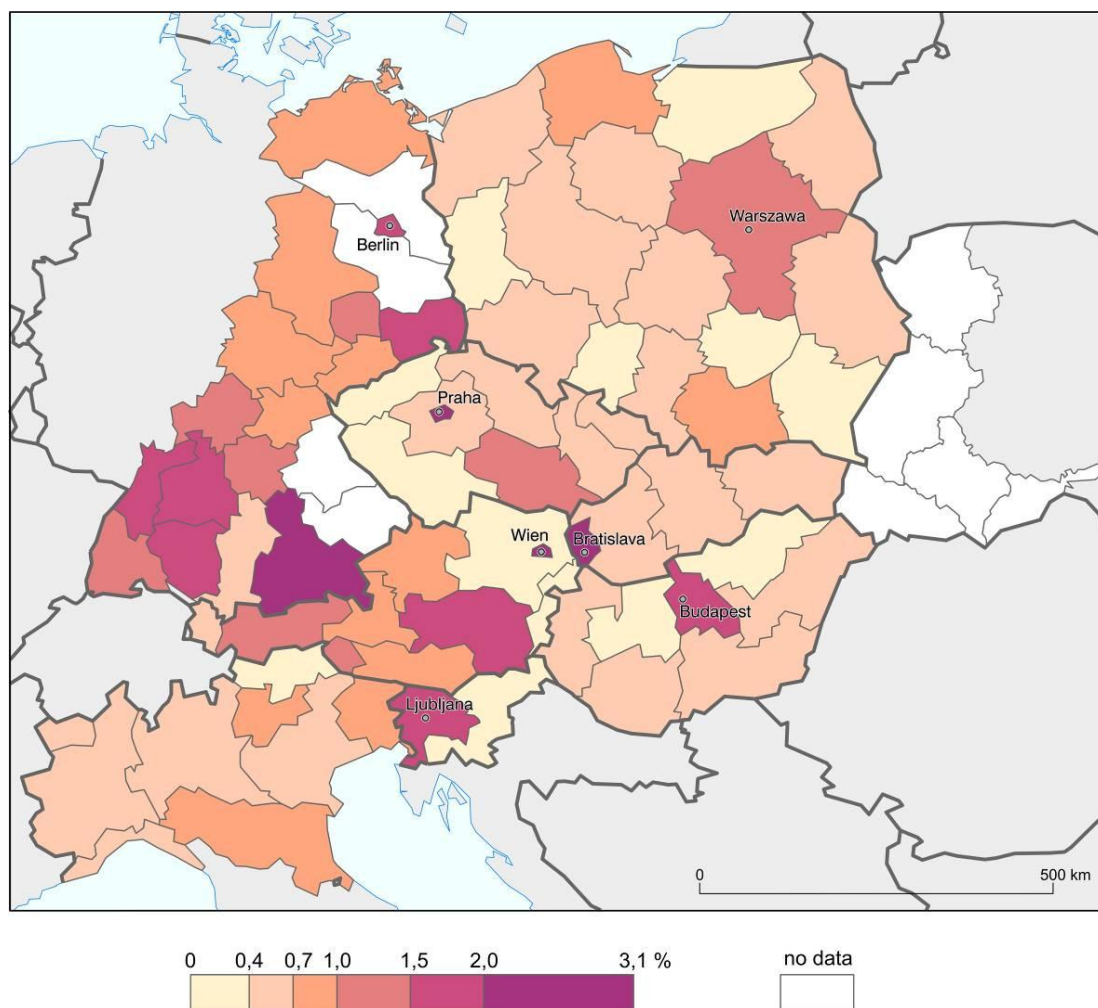
²⁰ Eurostat regional yearbook 2011, EU 2011

illustrate the region's brain drain occurrences, because Berlin's status as a big city attracts people who are well-educated and highly skilled, whereas peripheral regions are significantly less attractive for research and development businesses. However, there are also rural areas with significant amounts of R&D activities and innovation, for example Styria or the Western regions of Bavaria as well as Saxony.

Investment in research and development is one of the major challenges facing the European economy. Its competitiveness depends on the successful realization of plans at the local, regional and European levels.

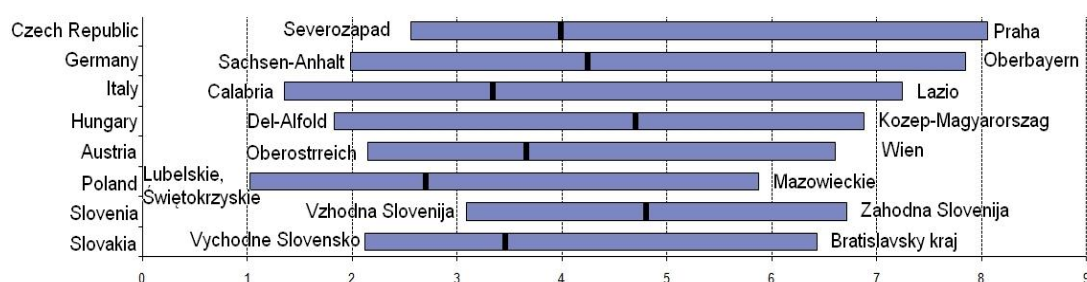
Figure 4 shows regional disparities in employment in high-tech sectors as a share of total employment. The figure shows the national average for each country of CENTRAL EUROPE as well as the regions with the lowest and highest level of employment in high-tech sectors. As we can see, the national level of this indicator ranges between 2,5 and 5%. On the regional level, the differences are more noticeable, ranging from 1% in the *Lubelskie* and *Świętokrzyskie* Voievodships in Poland to 8% in Prague (EU-27 average: 3,7%). The data used for this figure consists of national data only, underlining the fact of mentioning regions, not being part of CE as well; for example the two regions of Italy, showing the highest-share (Lazio) as well as the lowest-share (Calabria) of employment in high-tech sectors are not part of the CENTRAL EUROPE area.

Map 8: Share of researchers in total number of persons employed, all sectors, by NUTS 2 regions, 2008 (%)



Source: IGSO PAS based on Eurostat regional yearbook 2011, EU 2011

Figure 4: Employment in high-tech sectors as a share of total employment, highest-share and lowest-share NUTS 2 region within each country, 2009



National average (!) High-tech sectors = high-technology manufacturing plus high-tech knowledge-intensive services.

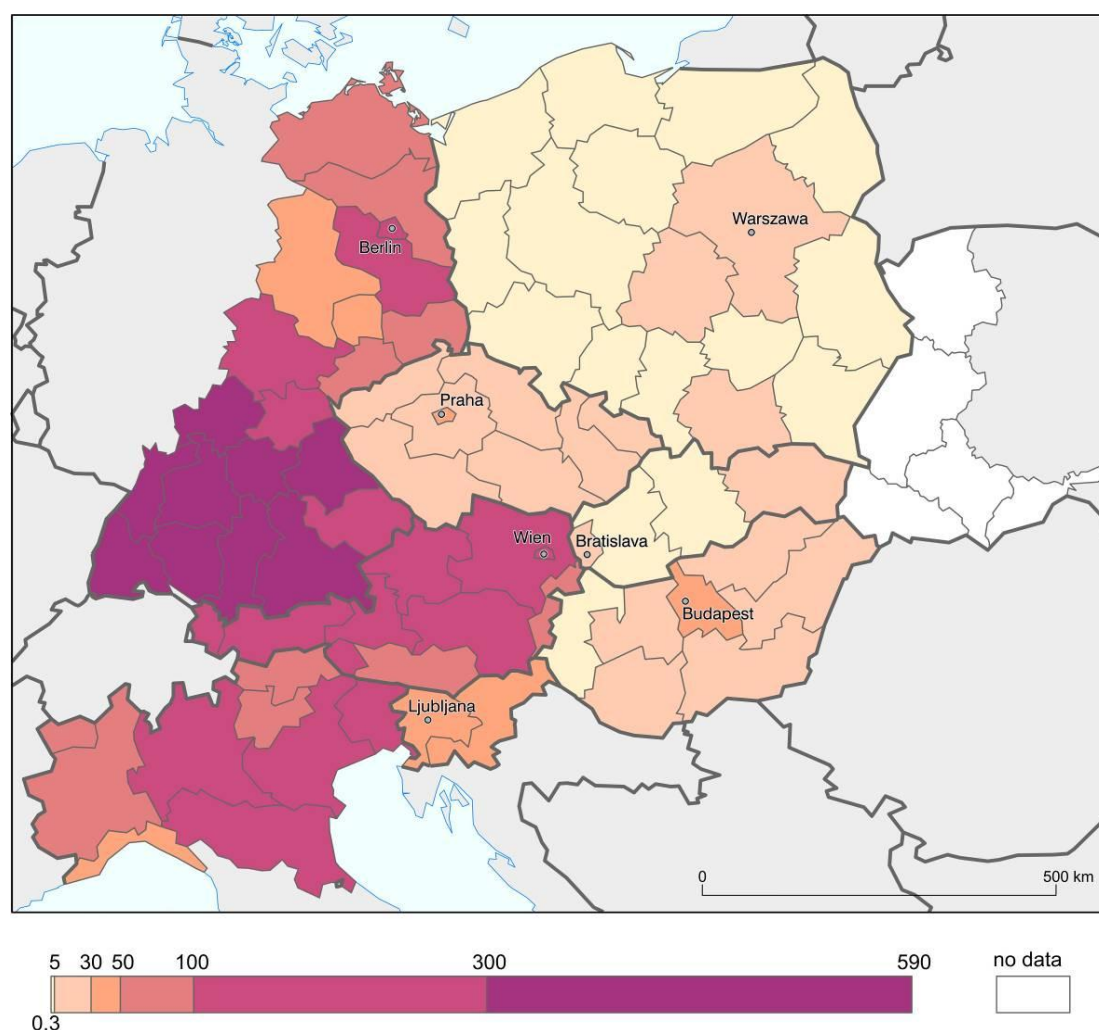
Source: IGSO PAS based on Eurostat regional yearbook 2011, EU 2011

Data on patent applications, made available by the EPO (European Patent Office), are an important source of information about the location of technological investments, research institutions and organizations involved in R&D. The data is calculated as

the number of patent applications per population, therefore in some cases less densely populated regions may rank relatively higher.

In the CE area, the highest number of patents can be observed in the southern part of East Germany, going hand in hand with a high rate of expenditure on R&D. A large number of patents are also filed in some parts of Austria and the North of Italy. Once again, the countries of the former socialist bloc display the lowest value of the indicator.

Map 9: Patent applications to the EPO, by NUTS 3 regions, 2006 (per million inhabitants)



Source: IGSO PAS based on Eurostat regional yearbook 2011, EU 2011

The Europe 2020 Strategy emphasises the important role of innovation and knowledge as bearer of economic growth and job creation in Europe. The attraction of creative workforce and stimulating the creative economy are among others important drivers of innovation and a knowledge-based economy. The share of local workers (active population) engaging in creative and cultural professions can be taken as an indication of how “embedded” creativity and culture is in local production systems and its importance for economic development.

Creative and cultural professions are to be understood as an aggregate category, comprising a variety of industries (e.g. artistic creation and literary interpretation; Advertising; Design; Computer games publishing; Radio and television activities).²¹ Possibly a very large part of the contribution of creativity and the (re)production of the symbolic to economic performance of firms and regions is not directly related to the “cultural economy” but rather embedded in other economic sectors: from the mainstream industrial sectors, where increasingly, added value and competitiveness are crucially dependent on their capacity to produce and convey “meaning” to culture-aware consumers, to the service sectors catering for consumers and firms, who are increasingly producers of idiosyncratic knowledge and experiences.²²

Economically successful regions tend to have high levels of creative workers among their active population. If no other factors are taken into account, regional creative and cultural specialisation explains approximately 50% of the variance in GDP per capita.²³ This indicates a strong association between GDP per capita and levels of creative occupations (Map 10). Regional hotspots/concentrations of the creative workforce are mainly the capital and metropolitan regions located in Central and Northern Europe. Within urban agglomerations, the creative workforce appears to concentrate in areas that are attractive in terms of accessibility and urban amenities.²⁴

In Europe, the creative workforce increased 12,7% (2.165.519 people) between 2001 and 2008. However, the dynamics of the creative workforce vary widely across Europe. The most favourable development trends (positive changes both in the creative workforce and in GDP per capita in relation to the ESPON average) are occurring mainly in regions in Eastern Europe, primarily in Poland, Czech Republic and Baltic countries. The fact that these less economically strong regions are experiencing simultaneous growth in GDP and employment in the creative workforce, indicates that creative occupations can contribute to better territorial balance and cohesion. On the other hand, the more economically strong regions of CE (in Austria and Italy) show a positive evolution of the creative workforce but a low increase of the GDP per capita, and the German Regions even show decreases in creative workforce as well as GDP. Possibly the reasons for this are to be sought in the loss of urban and environmental quality that accompany “mature” economic regions, where rising property prices, agglomeration disadvantages and a certain orientation to “mainstream” socioeconomic pathways may start to deplete their attractiveness and capacity of retention for young creative talents.²⁵

²¹ Europa Innova Paper N° 16: Priority Sector Report: Creative and Cultural Industries. April 2011.

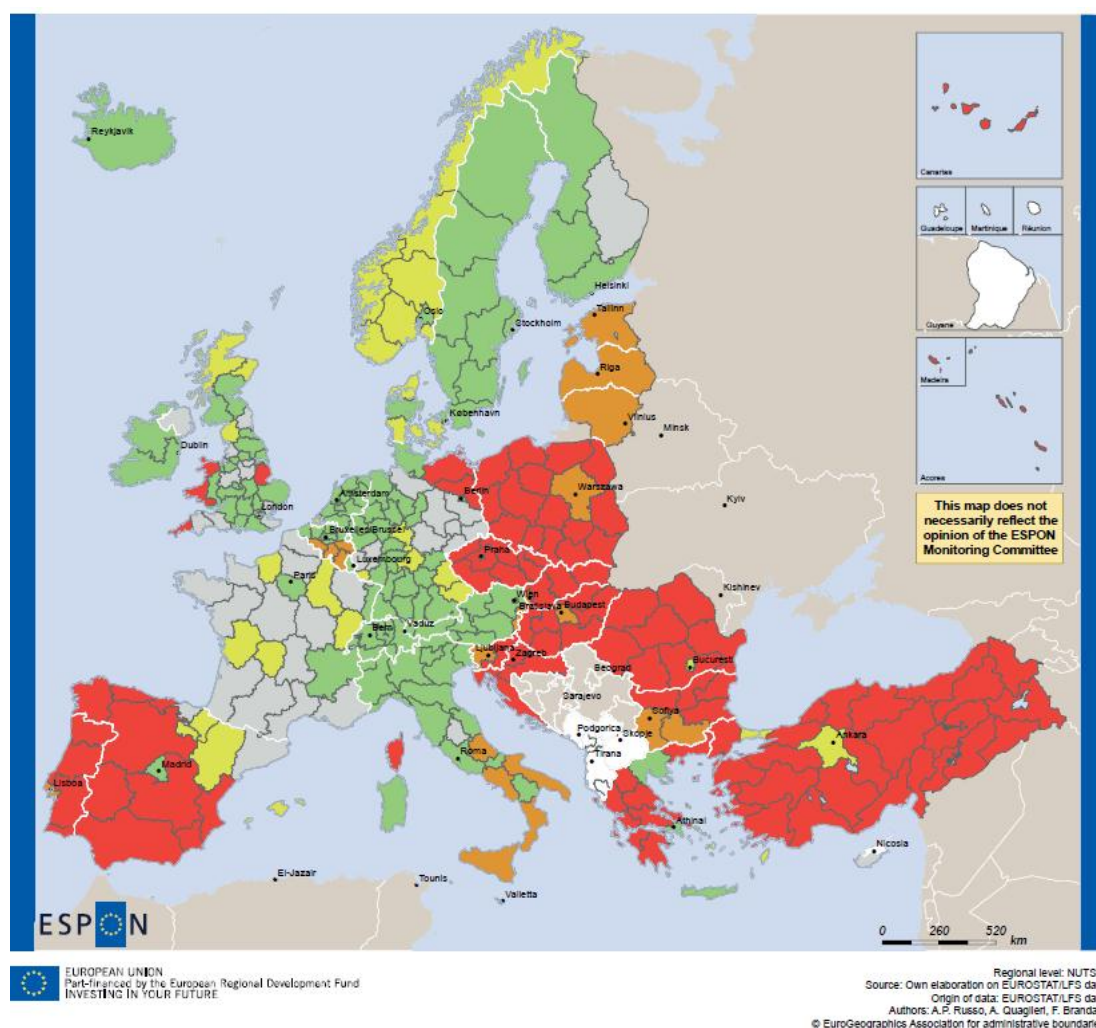
²² Russo, A. and Quagliari, A. (2011): Creative Workforce in Europe: territorial patterns and Effects.

²³ Europa Innova Paper N° 16: Priority Sector Report: Creative and Cultural Industries. April 2011.

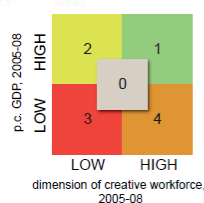
²⁴ ESPON Territorial Observation No. 5: Territorial Dynamics in Europe. The Creative Workforce. November 2011

²⁵ Russo, A. and Quagliari, A. (2011): Creative Workforce in Europe: territorial patterns and Effects.

Map 10: Relation between the creative workforce and GDP per capita



Typology



- 0 = NUTS2 region with no significant co-deviation of creative workforce and GDP per capita from distributions' means
 1 = NUTS2 region with high creative workforce, high GDP per capita
 2 = NUTS2 region with low creative workforce, high GDP per capita
 3 = NUTS2 region with low creative workforce, low GDP per capita
 4 = NUTS2 region with high creative workforce, low GDP

□ NO DATA

Typology based on cross-plotting the dimension of creative workforce and p.c. GDP in 2005-08 period. Classes refer to combination of signs of normalised indicators (x_i and y_i) with respect to available values in the ESPON space. Threshold value 0.25 for "non-significant" deviations from means ($x_i^2 + y_i^2 < 0.25$).

Source: ESPON Territorial Observation No. 5: Territorial Dynamics in Europe. The Creative Workforce. November 2011

2.1.2.3 Competitiveness of small and medium enterprises

Small and medium enterprises (SMEs) form the majority of business entities all over Europe and are the biggest employers. Thus as long as these enterprises stay competitive, the regional well-being will be ensured. As underlying factor for keeping up competitiveness the availability of all production factors will be

necessary – particularly the availability of a sufficiently trained workforce will become the key factor for competing in a globalized world.

Small and medium enterprises seek to maintain their operating margin and return on equity (ROE). In many industries the main measure taken, which effectively reduced the decline in operating profitability, was the hiring of temporary workers. Pharmaceutical companies and the agri-food product sector maintained profitable in 2008 and 2009, while the pharmaceutical industry, which has not suffered heavy losses as a result of the financial crisis, remains the most profitable both economically and financially. Operating profitability in the food sector is above the average for other industries.

EU citizens were almost evenly divided in their preference of being self-employed or having employee status: 45% would prefer the former and 49% the latter.²⁶ Many European citizens prefer to work as employees, with 4 of 10 people surveyed referring to a “regular and fixed income” and 35% of respondents to “stability of employment” as the primary motivation for their choice.

Small and medium enterprises in Europe have recognized the technological, financial and investment-related advantages that derive from the process of internationalization of their business. Very often SMEs are the seedbed for technological innovation and in combination with good education levels, entrepreneurs may act as regional innovation motors. However as soon as a certain size of the enterprise is reached and access to international markets and resources are needed, SMEs are often hitting the glass ceiling of expanding their action radius onto the EU or even global scale.

The study Regional challenges 2020²⁷ has pointed out both with respect to “mobility of persons and goods” as well as “global players”, which best describe this issue of internationalisation, that the CE area is clearly divided in two parts: While the regions in Germany, Austria and to some extent Italy show low vulnerabilities (due to the fact of more hosting transnational headquarters per 1000 jobs as well as showing higher than EU average R&D expenditure as a share of GDP) in these fields, the rest of CE regions are by and large confronted with high vulnerabilities (the overall accessibility is lower, the R&D expenditures are lower). This means these regions show a lack of multimodal transport hubs and limited internationalisation of their banking and insurance sector. The relatively low extent of R&D activities rounds up this picture.

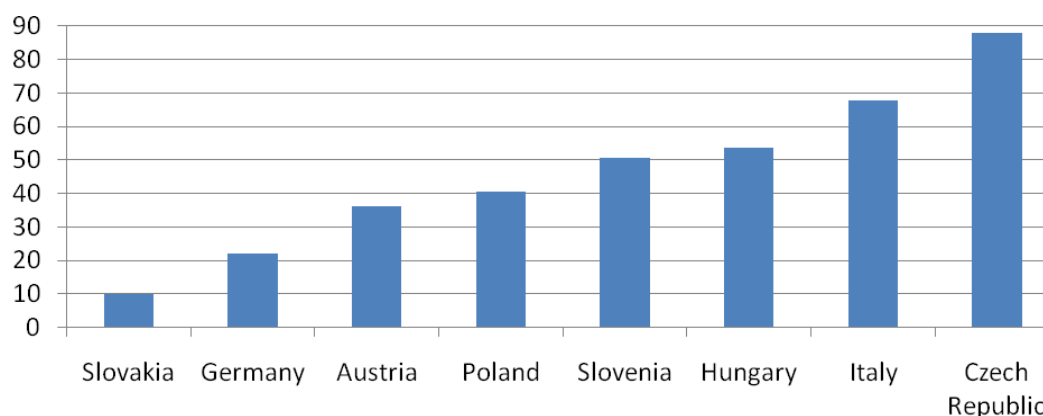
In 2008, 9.210.023 small and medium enterprises (employing less than 250 individuals) were in operation in CENTRAL EUROPE. The highest proportion of SMEs

²⁶ Entrepreneurship in the EU and beyond. A survey in the EU, EFTA countries, Croatia, Turkey, the US, Japan, South Korea and China. Analytical report. Fieldwork: December 2009.

²⁷ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

per 1000 inhabitants was registered in the Czech Republic, while in absolute numbers they are most numerous in Germany, Poland and Italy. Austria is the country with the highest rates of female entrepreneurship.

Figure 5: Number of SMEs per 1.000 inhabitants in 2008



Source: IGSO PAS based on Are EU SMEs recovering from the crisis? Annual Report on EU Small and Medium sized Enterprises 2010/2011. Rotterdam, Cambridge, 2011²⁸

In terms of entrepreneurial spirit and milieu the EU has established the EU Small Business Act, which stipulated a target value for setting up a business within the EU for 2012 at three days, at a cost of less than EUR 100. Currently, the average time required for setting up a business in the EU is 15 days (e.g. Poland 32 days, Austria 28, Hungary 4), while in the USA – only 6 days.

Access to finance for SMEs has become even more important in the crisis and most Member States have taken measures to facilitate this, mainly through extending schemes guaranteeing loans to SMEs, interest rate subsidies and increasing the credit earmarked for SMEs. Nevertheless access to finance still remains fragmented and out of line with current needs, especially for start-ups and small loans (micro credit).²⁹

Referring to the Competitiveness and Innovation Framework Programme (CIP)³⁰ which aims to encourage the competitiveness of European enterprises, especially SMEs, the following measures need to be taken to improve competitiveness (extract)³¹:

- ▶ Better access to finance for SMEs through venture capital investment and loan guarantee instruments

²⁸ For database see: http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/performance-review/files/supporting-documents/2010-2011/database_en.zip

²⁹ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

³⁰ See <http://ec.europa.eu/cip/>

³¹ See http://ec.europa.eu/cip/files/docs/factsheets_en.pdf

- ▶ Support for eco-innovation
- ▶ Developing a single European information space and strengthening the European internal market for ICT and ICT-based products and services
- ▶ Encouraging innovation through the wider adoption of and investment in ICT
- ▶ Fostering energy efficiency and the rational use of energy sources
- ▶ Promoting energy efficiency and new energy sources in transport
- ▶ Networking activities (private and public partners) to facilitate the exchange of best practices in order to improve innovation policies

Globalisation

- ▶ Large differences in GDP between old and new Member States
- ▶ Service sector as the fastest growing business sector
- ▶ Tourism is an important economic factor in CENTRAL EUROPE, especially in remote regions.
- ▶ Manufacturing activities were hit the hardest in the CE regions compared to the rest of Europe (due to the economic crisis)
- ▶ Increasing role: CE area split up into EU monetary union members and non-EU monetary union members
- ▶ Disparities between different regions of CE concerning the percentage of GDP spent on R&D
- ▶ New EU member states allocate less funding for R&D
- ▶ Investment in R&D as a major challenges facing the economy – the competitiveness depends on the successful realization of plans at the local, regional and transnational levels.
- ▶ Attraction of creative workforce and stimulating the creative economy are among others important drivers of innovation and a knowledge-based economy.
- ▶ Disparities in employment in high-tech sectors
- ▶ Disparities of education levels and quality
- ▶ Small and medium enterprises (SMEs) form the majority of business entities all over Europe and are the biggest employers.
- ▶ The highest proportion of SMEs per 1000 inhabitants was registered in CZ (high absolute numbers in DE, PL, IT)
- ▶ Competitiveness of SMEs has to be improved by guaranteeing access to finance, supporting eco-innovation, strengthening the European internal market for ICT and ICT-based products and services, encouraging innovation, promoting energy efficiency and better networking of private and

public partners.

2.1.3 Accessibility

The term *accessibility* refers to the territorial organization and quality of transport infrastructure and indicates the general development level of a region in the context of globalization³². It is a measure for the potential for the region to reach markets and activities in other regions and plays an important role in the discussions concerning European policy. This reflects the relationship between the accessibility of a region and its economic performance. According to the ESPON report on current trends in accessibility (2009), a strong positive relationship exists between the two factors. Regions with a high accessibility are most often also economically successful (Map 11).³³

CENTRAL EUROPE is an area of low availability of space, hence the mobility of goods and people is limited and the historical structure is partly still visible in the core-periphery dichotomy. The least accessible regions are areas located within the former Soviet Bloc countries, because the development of technical infrastructure there was slow, and the infrastructure itself was of lower quality. In these eastern regions of CE only the capital regions show high potential multimodal accessibility as well as above average GDP volumes. These regions are surrounded by well accessible regions with a below average GDP per capita. These “surrounding” regions seem to dispose of underused potential that could be exploited in order to increase their economic welfare. The other regions, predominantly found in peripheral areas in Eastern and Southern Europe, face a “double” challenging situation and would require particular attention in relation to the aim of territorial cohesion.³⁴

People, goods and services are more mobile in the primary “globalization space”, where networks, embracing scientific knowledge, technology, production, service, finance and culture are on a high level. High potential multimodal accessibility and above average GDP per capita can be found in the plane regions of Southern Germany, Eastern Austria and Italy. The areas of Alpine, mountainous Austria and Italy are notably difficult to reach, but predominantly still show above average volumes of GDP. Apparently, accessibility is not a decisive factor for the high regional economic performance in these regions and may arise from current strengths in relation to ICT, research, educational and environmental opportunities and less from their accessibility.

³² The Territorial State and Perspectives for the European Union, Towards a Stronger European Cohesion in the Light of the Lisbon and Gothenburg Ambitions, Territorial Agenda of the European Union, 2005.

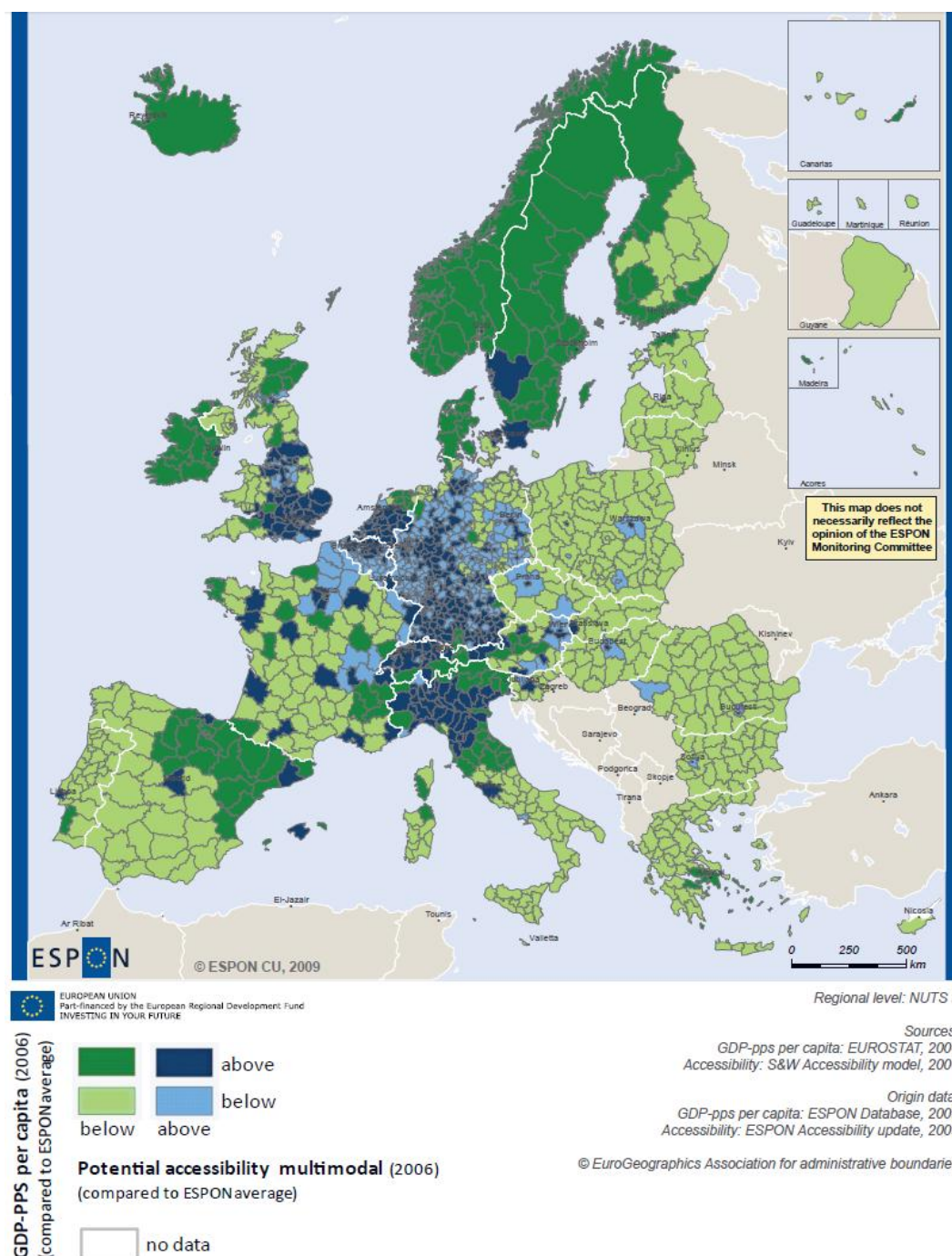
³³ ESPON (2009) Trends in Accessibility.

³⁴ ESPON (2009) Trends in Accessibility,

Mobility of persons and goods is crucial for the international exchange in a globalised economy. It is highly dependent on a number of factors (e.g. energy prices, security, global trust) and thus plays a major role in the globalisation challenge. The efficient movement of goods is essential because (freight) transportation significantly affects economic productivity. Accessibility enables access to the regions and thus their participation in international flows. Transport hubs have historically proven to be advantageous to cities and, by extension, regions (Ross et al., 2006). In a global perspective, it is important to consider not only intra-European accessibility, but also connections to extra-European markets.³⁵

³⁵ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

Map 11: GDP-PPS per capita versus potential multimodal accessibility

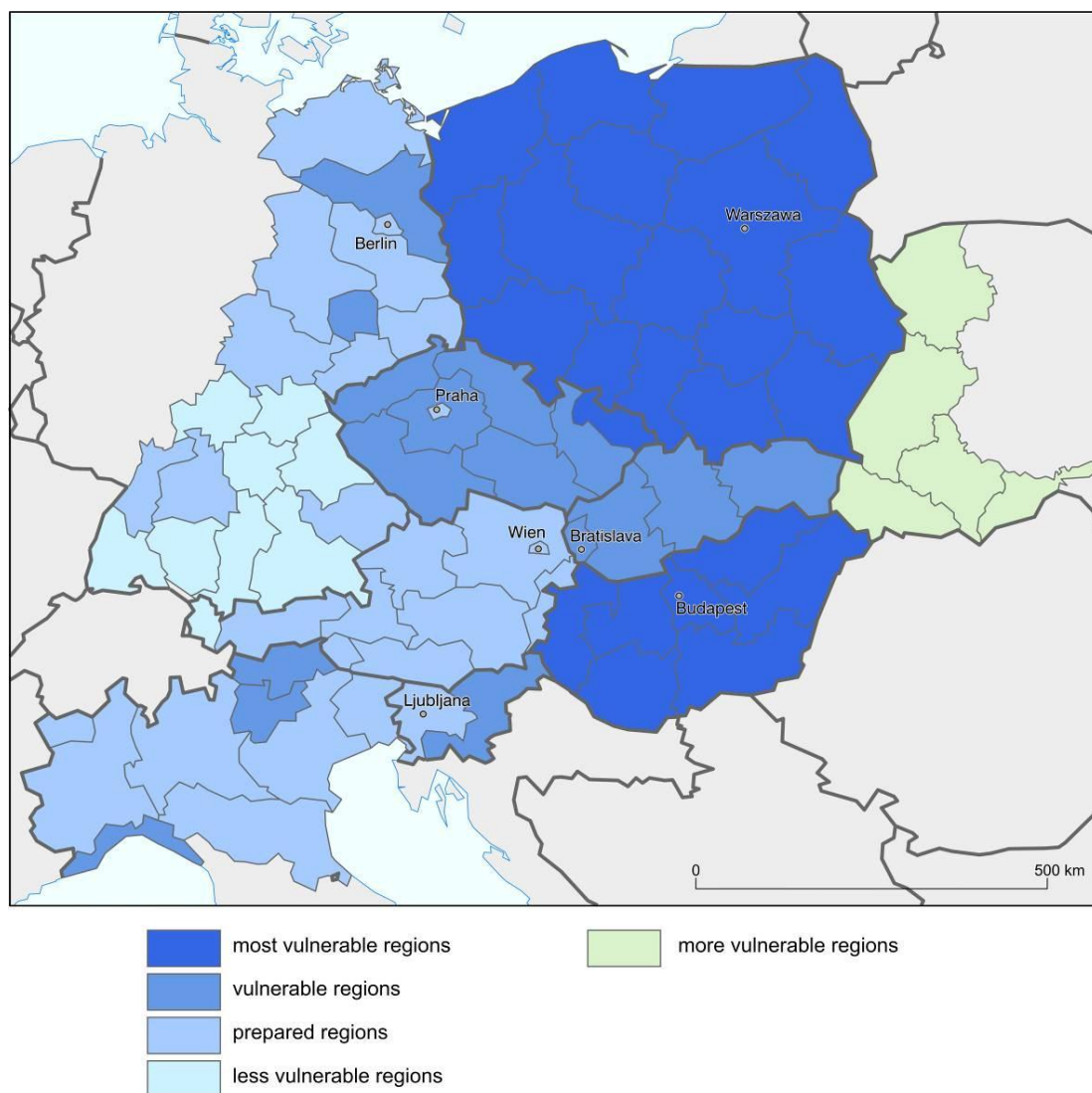


Source: ESPON Territorial Observation No. 2: Territorial Dynamics in Europe. Trends in Accessibility. November 2009

Map 12 illustrates the regional vulnerability of CENTRAL EUROPE concerning accessibility, linking the impact of accessibility parameters (potential road, rail and air accessibility), sensitivity in the context of accessibility (labour costs, since they must adjust to competitiveness as determined by regional production possibilities) and adaptive capacity (households with broadband access, as at least services and know-how can be transferred efficiently by means of modern communication

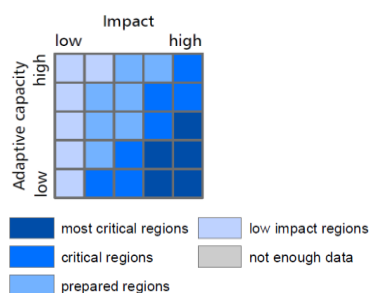
infrastructure even if accessibility levels are relatively low). A typology that combined impact and adaptive capacities into four classes was chosen and is presented in the figure below.

Map 12: Accessibility – vulnerability



Source: IGSO PAS based on Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011

Figure 6: Vulnerability typology



The combination of impacts and adaptive capacities in the field of accessibility resulted in the classification of the following types of regions:

- ▶ low impact/less vulnerable regions: the impact of accessibility is either greatly below average or below average and the adaptive capacity greatly above average:
- ▶ prepared regions: the adaptive capacity is higher than the impact of accessibility or both are average:
- ▶ critical/vulnerable regions: the adaptive capacity is the same or slightly lower than the impact of accessibility:
- ▶ most critical/most vulnerable regions: the impact of accessibility parameters is above average and the adaptive capacity is below.³⁶

The vulnerability cartogram emphasizes the core–periphery disparities in CENTRAL EUROPE. The analysed regions of Germany, Austria and Northern Italy form the core area in terms of accessibility. Together with some main nodes such as Paris, Berlin, Prague and Vienna it forms the core area benefiting from the highest degree of centrality, peaking in the southern regions of Germany. Peripheral areas are generally understood as those areas with poorer connections to agglomerations in terms of travel times, travel costs and the diversity of transport modes and routes available. This latter aspect can have a particularly important impact on transport reliability, which is of key importance for most industrial development.³⁷ Monocentric oriented transport networks and lack of investment in regional infrastructures increases the core–periphery disparities.

Several regions of the former GDR and Northern Italy show a vulnerability above–average and therefore a higher degree of peripherality. In most of the regions in the core of Europe with high accessibility their vulnerability in terms of accessibility is further reduced by a high adaptive capacity. For the Eastern and Southern European regions relatively low accessibility values are accompanied by limited broadband access. This implies a twofold challenge, where a capacity which could possibly offset accessibility disadvantages is not yet available. Poland and Hungary show the greatest level of peripherality. By contrast, Slovenia (especially the region of *Zahodna Slovenija*) is characterized by the highest level of centrality among new EU Member States, whereas the Czech Republic can be cast into a transitional *core-to-periphery* stage.

Factors lowering the competitiveness of places are disparities in multimodal accessibility such as combined transportation (air, road, rail, etc.). The greater the overall accessibility (including multimodality), the less significant the contrast

³⁶ See Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011

³⁷ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

between core and peripheral areas becomes. Additionally it has to be taken into account that the different types of transportation may create different patterns and different structures. Roads tend to shape contiguous spaces of higher accessibility, rail is more geographically punctual providing high accessibility to corridors and cities (transportation nodes), new air connections support European polycentric development and world integration, and multimodal accessibility materializes in geographical hotspots where modes of transport meet.³⁸

Transport infrastructure and accessibility

Efficient transport infrastructure is necessary for the fluid and smooth mobility of persons and goods, as well as for the economic, social and territorial cohesion of the European Union. In order to achieve this goal, there was a need to form a common network integrating land, sea and air transport networks in the EU. The trans-European transport network (TEN-T) was established to allow goods and people to circulate more efficiently, quickly and easily between member states. This multimodal transport network is the basis for further development that will contribute to the mitigation of socio-economic polarization among the EU states. Until now, the already finished infrastructures for high-speed trains influenced the accessibility of some regions; regions in CENTRAL EUROPE, benefiting the most, are located in Germany as well as in Italy.³⁹

In 2011, the Commission adopted a proposal for a new core network, which should remove bottlenecks, improve connections between different modes of transport, upgrade infrastructure, streamline cross border transport operations for passengers and businesses throughout the EU and contribute to the EU's climate change objectives.⁴⁰

The new policy follows a two-year consultation process and establishes a core transport network to be established by 2030 to act as the backbone for transportation within the Single Market. The new core TEN-T network will be supported by a comprehensive network of routes, feeding into the core network at regional and national level, which is to be completed by 2050 (see Map 13 and Map 14). The implementation of the core network will be facilitated using a corridor approach. Ten corridors will provide the basis for the co-ordinated development of infrastructure within the core network.⁴¹

³⁸ ESPON (2009) Trends in Accessibility,

³⁹ ESPON (2009) Trends in Accessibility.

⁴⁰

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/706&format=HTML&aged=0&language=en>

⁴¹

<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/706&format=HTML&aged=0&language=en>

The realization of the TEN-T network project is a great opportunity for the Central European region to obtain a more efficient, more secure and better organized transport network. It is especially crucial in the case of the new Member States, as they have a less dense network that requires modernization and extension. The TEN-T network will go a long way in reducing interregional disparities and reinforce transnational cooperation.

In general, accessibility in Europe is increasing. Rail accessibility had an average growth of 13,1 % in the period of 2001–2006 (latest available data, ESPON Territorial Observation No. 2), while air and road accessibility had increased 7,7% and 7,4% respectively during the same period.⁴²

In particular, high-speed projects in Southern Germany led to significant relative gains for regions in terms of improved rail accessibility. Eastern EU Member States have hitherto prioritized road infrastructure at the expense of rail infrastructure and services during 2001–2006. According to the 5th Cohesion Report by the European Union, new investment in motorways tended to be concentrated in less developed regions of the EU between 2000 and 2008.

⁴² ESPON (2009) Trends in Accessibility.

Map 13: Trans-European Transport Network (TEN-T) in CENTRAL EUROPE (Eastern part, core and comprehensive network)



Source:

http://ec.europa.eu/transport/infrastructure/doc/com%282011%29_650_final_2_annex_i_part15.pdf

Map 14: Trans-European Transport Network (TEN-T) in CENTRAL EUROPE (Western part, core and comprehensive network)



Source:

http://ec.europa.eu/transport/infrastructure/doc/com%282011%29_650_final_2_annex_i_part13.pdf

Accessibility by road has a clear core-periphery pattern within CENTRAL EUROPE, with highest potential accessibility for 2006 in the regions of Germany, western Austria and north-western Italy. In all these regions, the combination of good road infrastructure in form of dense motorways and high concentration of population leads to these favourite positions. High relative increase of road accessibility can be found in the Western part of Poland and the Czech Republic where infrastructure projects have strongly improved accessibility.⁴³ Most of the other CE regions are in need of a more even distribution of high speed roads to increase accessibility (see Map 15).⁴⁴

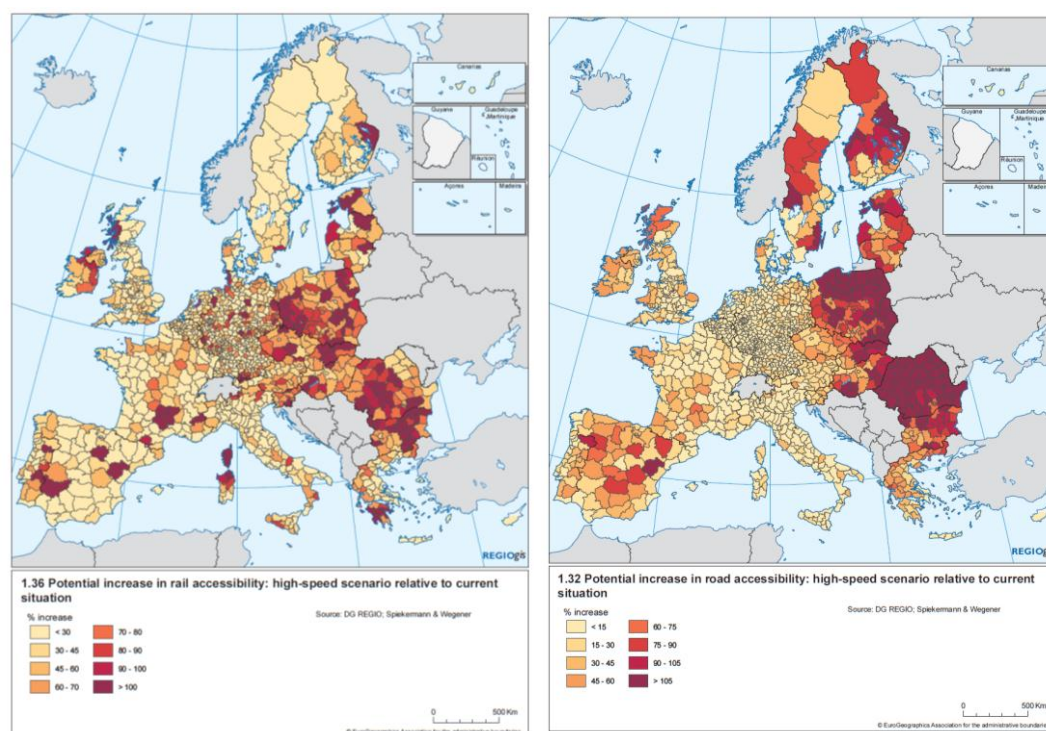
In the New MS (EU-12), inter-regional rail connections are mostly missing, even the capital cities not being well connected to each other. In the EU-12, the density of the rail network is much higher than for roads, however much of it remains out of date and in a poor state of repair. The eastern regions of CENTRAL EUROPE show lower average speed of the rail network than the regions in the EU-15 countries.⁴⁵ Map 15 shows that especially regions in the Czech Republic, Poland, Slovakia, Hungary and Slovenia would benefit significantly from improving the speed on the railway network to at least 90 km per hour. Most of the regions of Germany, Austria and Northern Italy show a comparably positive state of the average speed of the current rail network.

⁴³ ESPON (2009) Trends in Accessibility.

⁴⁴ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion

⁴⁵ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Map 15: Potential increase in rail and road accessibility: high-speed scenario relative to current situation.



Source: European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

In the longer term more focus could be considered on investment decisions favouring public transport infrastructure in order to prevent potential congestion and pollution challenges. Due to specific characteristics of rail networks, the effects of high accessibility by rail are normally concentrated around city hubs (nodes) and along corridors of high-speed rail lines. Below average accessibility by rail can still be found in some rural areas in the Western regions of CE as well as in most of the Eastern regions of CE, which indicates the need of additional rail and bus lines besides high speed corridors.⁴⁶

The dynamic modification of airline destinations in the former years changed regional accessibility, both in positive and negative direction. Only regions with large international airports seem to ensure a stable position of air accessibility. The system of air accessibility seems very heterogeneous; in general, the overall pattern of air accessibility is rather constant based on the stability of the major international airport hubs. Regions gaining from air accessibility are mainly Eastern Europe and parts of Italy, these regions are still below average, although they are within a catching-up process.⁴⁷

The urban transport system is of high importance considering emerging political challenges of recent years (e.g. Climate change, energy policy, air quality legislation

⁴⁶ ESPON (2009) Trends in Accessibility

⁴⁷ ESPON (2009) Trends in Accessibility

and the difficulties of tackling congestion). New challenges are to enhance mobility while at the same time reducing congestion, accidents and pollution in European cities. Urban Transport systems in large developing cities face major challenges due to the continuous growth of urban population, private vehicle ownership, congestion, and the fragility of public transportation systems. Transport may become a binding constraint on both economic growth and social development and inclusion, along with increased negative impacts on health and on the environment.⁴⁸ Public transport plays an important role not only in cities, but as well in rural areas as inter- and intraregional flows (commuters, leisure and shopping traffic) are gaining intensity and lead to an increase in traffic.

Table 7: Modal Split of Passenger Transport on Land by Country 2000 and 2008 (Passenger-km in %)

	2000			2008		
	Passenger Cars	Buses	Railways, Trams & Metro	Passenger Cars	Buses	Railways, Trams & Metro
EU27	83,1	9,8	7,1	83,3	9,4	7,3
CZ	73,2	18,5	8,3	76,0	16,9	7,1
DE	85,2	7,1	7,7	85,1	6,3	8,6
IT	83,8	10,8	5,4	82,4	11,9	5,7
HU	62,1	25,0	12,9	62,1	25,7	12,3
AT	79,2	11,0	9,8	78,6	10,2	11,1
PL	72,8	15,4	11,7	85,5	8,4	6,2
SI	82,9	14,3	2,9	86,2	10,9	2,9
SK	67,9	23,9	8,1	74,9	18,6	6,5

Source: OIR, based on EUROSTAT

The Eastern countries of CE (except Slovenia) displayed considerably higher shares of public transport (Modal Split of Passenger Transport) in the year 2000 than the old member states (Table 7). This was mostly due to a less developed road network as well as lower levels of car ownership.⁴⁹ However, the Eastern countries are in a catching up process and motorized individual transport is on the rise, while it is stagnant or decreases in the old member states, mostly due to capacity problems, regulatory measures (e.g. parking-management) and investments in public transportation.

Access to Information and Communication Technologies

Information and Communication Technologies (ICT) is a term used to describe the Information Technologies (IT) including telecommunication, broadcast media, all

⁴⁸ <http://web.worldbank.org>

⁴⁹ Urban Transport Initiative, Year Two, 2005; Directorate-General for Mobility and Transport: Transport in figures, 2011

types of audio and video processing, as well as transmission and network-based control and monitoring functions.⁵⁰ The wide use of new technologies and high public accessibility reflects the general level of a region's socio-economic development.

Access to modern ICT is today a basic element contributing to the proper and effective functioning of the economy and society. The role and importance of the individual elements of information and communication technology is growing. Currently, the most important agents in the process of communication and exchange of information are the Internet and wireless telephony. The Internet – the usage of which is widespread and rapidly increasing across European regions – in particular provides unlimited possibilities for creation and exchange of information and increasingly enables a greater range of long-distance services. The evolution of a so-called Information Society becomes an absolute condition for social and economic development and improving the competitiveness of regions.

The Internet is the most significant element of ICT of common use, which may contribute to the development of the information society and hence mitigate social polarization in various ways. It is assumed that in a household which possesses Internet access at home, this kind of ICT is in everyday use. The common use of the Internet supports the spread and evolution of e-administration, e-learning, e-integration and e-health.

The greatest percentage of households with Internet access at home (more than 80% of households) was registered in the year 2011 in the Southern regions of Germany, the region of *Berlin*, as well as the region of *Vorarlberg* in Western Austria. Seven German regions registered a proportion equal to or greater than 85% of households with access to the Internet at home.

In the same year, a significant share of households with Internet access at home (75–80%) was observed in three German regions, four regions of Austria (including the capital region of Vienna) as well as a single region in Hungary – *Közép-Magyarország*, in which the city of Budapest is located, which represents the only new EU member region to exceed the value of 75%. At the same time, Hungary shows the greatest national polarization in Internet accessibility; regional disparities reach up to 19% (*Eszak-Alföld* reaches a low level of only 56% of households).

A relatively significant percentage (70–75%) of households with access to the Internet at home at the CE level was registered in the other regions of Germany (parts of the former German Democratic Republic), the southern regions of Austria, Slovenia and three regions of Slovakia, including the capital region of Bratislava.

⁵⁰ Source: oecd.org

The northern parts of Italy (where data is available), Poland and the Czech Republic were the only areas of CENTRAL EUROPE that did not exceed the proportion of 70% of households with access to the Internet at home. Hungary would also belong to that category, if the exception of the Budapest region would not exist (as discussed before).

In 2011, the vast majority of Poland's regions boasted a level of Internet access at home greater than 65%. Four regions of the Polish "Eastern Wall" return lower values than that.

Among the new EU Member States, Slovenia and Slovakia generally present the highest values of Internet use at home.

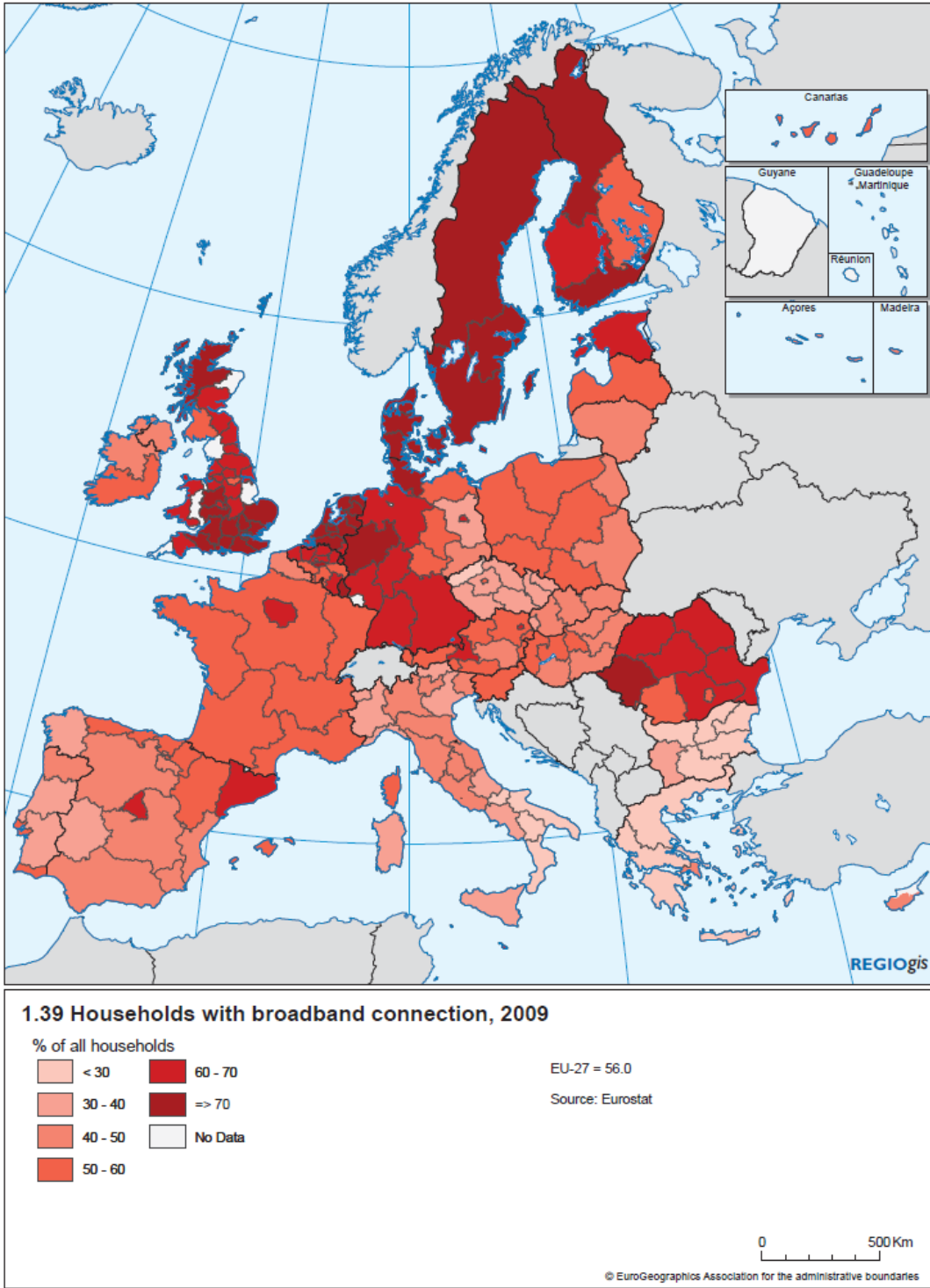
According to the European Commission, nine countries within the EU can boast a greater number of Internet users per one hundred inhabitants than the U.S. According to the last Digital Competitiveness report⁵¹, the average national coverage of DSL networks (as an indicator for broadband coverage) in the EU increased from 87% of the population in 2005 to 94% in 2009. In 2010 only 29% of European broadband connections guaranteed speeds of 10Mbps and only 5% of 30Mbps or more. The European Commission aims to bring all Internet connections to the speed of 30Mbps by 2020. In the same year, at least half of all Europeans should have the ability to connect to the Internet in their homes with a connection speed of 100Mbps. The European Commission also intends to address the development of broadband Internet access delivered by radio.

Map 16 shows the regional differences of households with broadband connection in the year 2009. Broadband coverage in thinly populated areas generally lags behind that in densely populated ones. Most of the capital regions in CE and the south of Germany boast high levels of high-speed internet connections, whereas rural areas and regions in the new member states lag behind. In some countries, like Slovenia, Italy, Germany and Sweden, efforts were concentrated on reducing the gap between thinly and densely populated areas with some success. In Austria, Estonia and Ireland, mobile technologies have played a key role in closing the gap. In terms of Internet usage, the Internet rollout in Europe appears proceeding very favourably both in scope and scale.⁵²

⁵¹ European Commission, Europe's Digital Competitiveness Report, Main achievements of the i2010 strategy 2005–2009, 2010

⁵² ESPON (2011) Trends in Internet Roll-out; European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Map 16: Households with broadband connection, 2009



Source: European Union (2010): Investing in Europe’s future. Fifth report on economic, social and territorial cohesion based on Eurostat

Accessibility

- ▶ Accessibility refers to the territorial organization and quality of transport infrastructure and indicates the general development level of a region in the context of globalization.
- ▶ There is a strong positive relationship between the accessibility of a region and its economic performance
- ▶ In CENTRAL EUROPE the historical structure is partly still visible in the core-periphery dichotomy. The least accessible regions are areas located within the former Soviet Bloc countries.
- ▶ Germany, Austria and Northern Italy are the CE regions with the most significant level of centrality and a high potential in multimodal accessibility.
- ▶ Poland and Hungary show the greatest level of peripherality and below average multimodal accessibility.
- ▶ Capital regions show high potential multimodal accessibility as well as above average GDP volumes. Transport hubs have historically proven to be advantageous to cities.
- ▶ In general, accessibility in Europe is increasing. Rail accessibility has an average growth 2001–2006 of 13,1% (partly due to developments of the TEN-T network), while air and road accessibility has increased 7,7% and 7,4% respectively during the same period.
- ▶ Eastern EU Member States have prioritized road infrastructure at the expense of rail infrastructure and services during 2001–2006.
- ▶ The Eastern countries of CE (except Slovenia) displayed considerably higher shares of public transport (Modal Split of Passenger Transport) in the year 2000 than the old member states
- ▶ However, the Eastern countries are in a catching up process and motorized individual transport is on the rise, while it is stagnant or decreases in the old member states
- ▶ In the longer term more focus could be considered on investment decisions favouring public transport infrastructure in order to prevent potential congestion and pollution challenges.
- ▶ Access to modern ICT is today a basic element contributing to the proper and effective functioning of the economy and society.
- ▶ Most of the capital regions in CE and the south of Germany boast high levels of high-speed internet connections, whereas rural areas and regions in the new member states lag behind.

2.1.4 Demographic Change

According to the last Demography Report of the European Union from the year 2010, the demographic image of the Union had become clearer: “growth is fuelled mainly by immigration, whereas the population is becoming older and more diverse.”⁵³

Issues of demographic change identified within the CENTRAL EUROPE region are therefore mainly dealing with the average life expectancy (topic of ageing) as well as with depopulation tendencies (former/future) within the area. The tendency of greater life expectancy is one main positive trend in Europe; another aspect is the slight increase in fertility, which might “contribute to a slower rate of population decline in the medium/longer term.”⁵⁴ Another main point of the following chapter is the discussion of migration trends in CENTRAL EUROPE. Demographic change in general influences the economic performance of regions, due to the dependence of regions to demographic developments (alteration of consumption patterns, existing and available labour force). Variances within population numbers (due to births, deaths, migration) may lead to conflicts and problems concerning economic issues such as transformed labour markets, due to a high dependency ratio on old-age, decreasing employees and missing qualified labour force or influenced household demand, due to altered lifestyles and standards. “To avoid any unwanted conflicts, adjustment activities must be constantly refined into a coherent framework in order to maintain and improve territorial cohesion”.⁵⁵

Changing population/Depopulation

Depopulation tendencies have been issues of the CENTRAL area; within the study “Regional Challenges in the Perspective of 2020 – Phase 2”, the so-called Webb Classification was used to examine the main issues and challenges underlying the shrinking of population numbers. The method concentrates on relationships between natural growth and net migration; with this classification, it is possible to identify the direction of population change as well as the driving forces of these shifts.

Within the CENTRAL EUROPE area it is observable that between 1998 and 2008 the population in Northern Italy, Western Austria and some regions of Southern Germany was growing due to a gain in migration as well as – to a lesser extent –

⁵³ European Commission (2011): Demography report 2010. Older, more numerous and diverse Europeans.

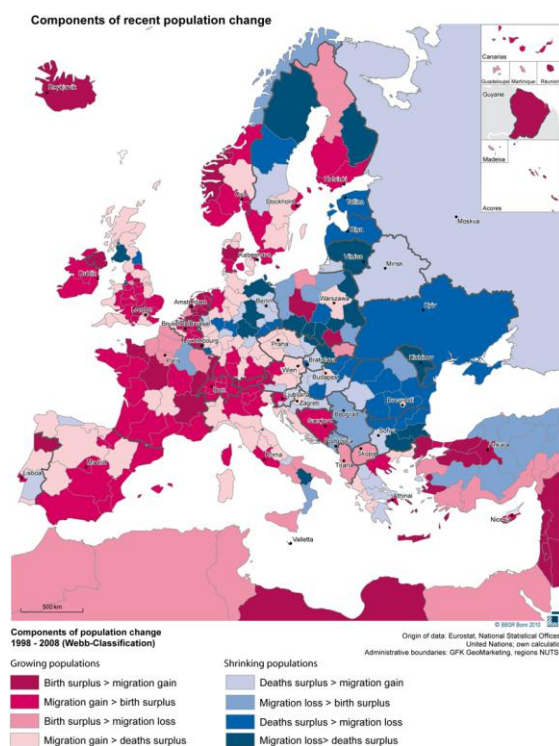
⁵⁴ European Commission (2011): Demography report 2010. Older, more numerous and diverse Europeans.

⁵⁵ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

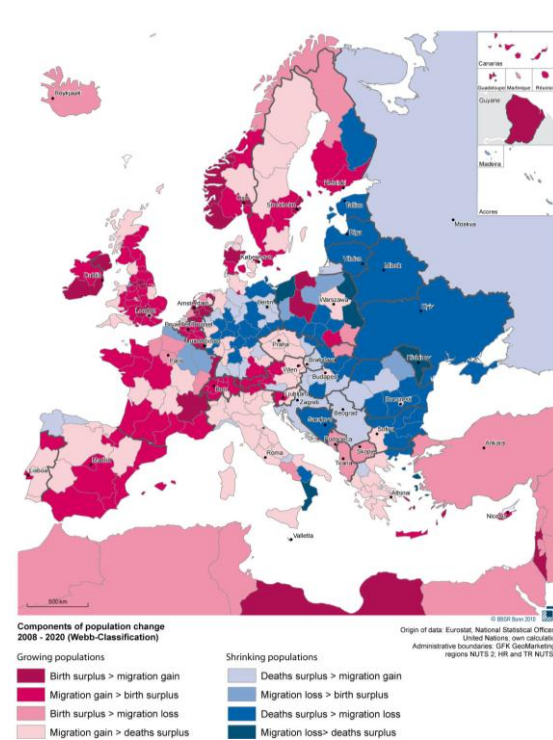
natural growth. Regions in Eastern Austria, Southern Germany, the western parts of the Czech Republic as well as in some of CENTRAL EUROPE's capital regions (e.g. Warszawa, Budapest, Ljubljana) showed a deaths surplus which was compensated by immigration.

Shrinking population between 1998 and 2008 can be noted within the Eastern part of the Czech Republic as well as in Hungary, Slovenia, Slovakia and Poland. In Poland and Slovakia growing regions with a gain in population through migration and births exist next to intensely shrinking regions (migration loss as well as deaths surplus).⁵⁶

Map 17: Europe and its neighbourhood:
Components of recent population change
1998–2008 (Webb Classification)



Map 18: Europe and its neighbourhood:
Components of population change 2008–
2020 (Webb Classification)



Source: Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011

Other main findings from using the Webb Classification concern the components of population change from 2008 to 2020; this data represents a future foresight.

In general it can be mentioned, that many regions may switch from a growing to a shrinking population. Areas of CENTRAL EUROPE being involved in this process are

⁵⁶ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

mainly regions in Germany and Northern Italy, whereby areas of Northern Italy are projected to lose their natural population dynamic but still will gain population due to immigration. In some German regions of CE population will decline as the deaths surplus is projected to exceed the migration gain.

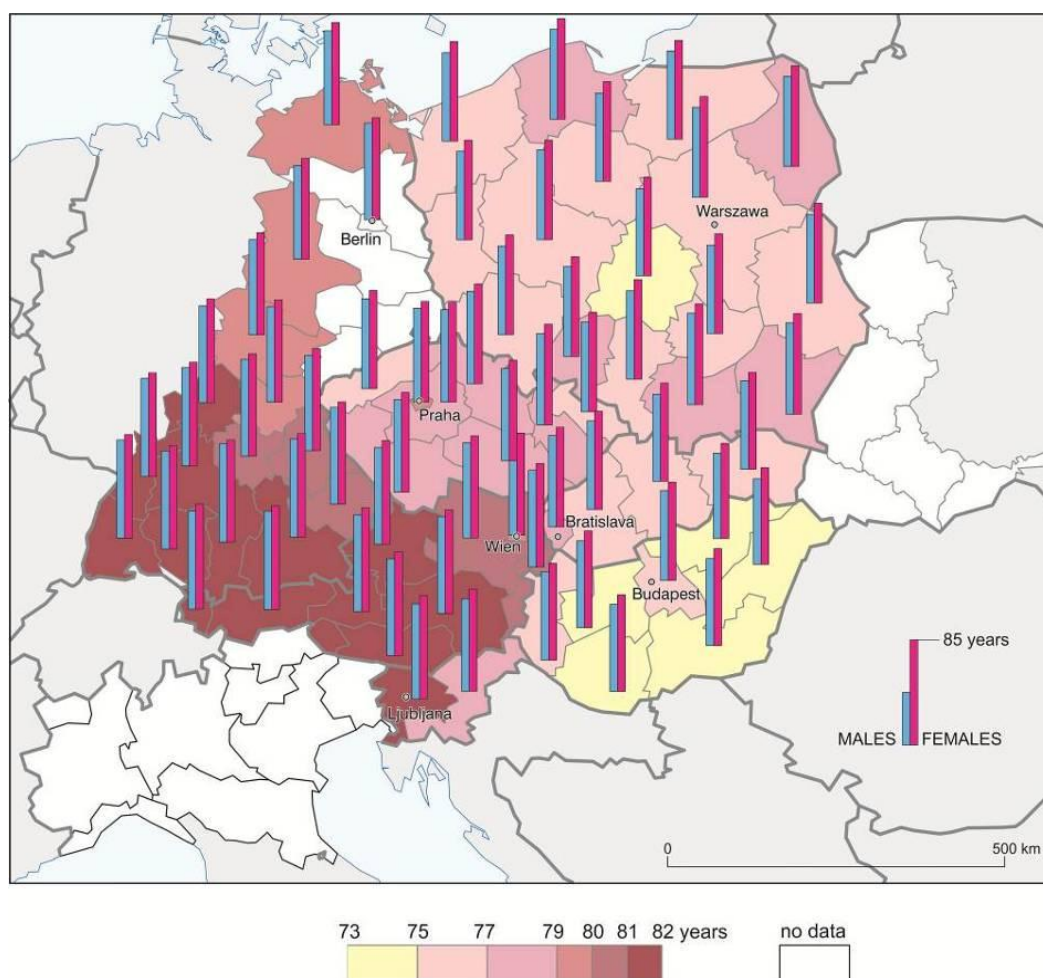
In the other regions within the CENTRAL EUROPE, especially the already shrinking regions of the eastern Member States no significant differences to the status quo can be observed.

Life Expectancy

The average life expectancy is a synthetic indicator that reflects the general standards of living of a region. This factor emerges from the lifestyle of the population (awareness of the components of a healthy life, diet, level of physical activity, use of tobacco and alcohol) as well as national/regional health care standards and accessibility.

In 2010, inhabitants of three countries of the investigated area exceeded the average life expectancy, surpassing the age of 80. These were the residents of neighbouring regions of Western Austria, South-Western Germany and Western Slovenia. By contrast, at a national level, a relatively low average life expectancy was observed in Hungary (with a highest value of 76,3). The mentioned areas are situated in relatively close proximity to each other.

Map 19: Average life expectancy in 2010



Source: IGSO PAS based on Eurostat, 2012

Such high disparities reflect the disproportions in standards of living throughout the region. The division between the old and new members of the EU is clear (with the exception of Slovenia).

Among the new members of the EU, the inhabitants of Slovenia tend to live the longest. This illustrates the fact that the socio-economic development of this country is reaching the same level as that of the old EU members. Another new MS with a high average life expectancy in relation to other countries is the Czech Republic, where values vary from 75,8 to 79,4. Poland is just behind, but here greater regional disparities occurred.

The lowest average life expectancy of the Central European region was identified in Ukraine, with a value of only 68,7 years (data for whole state, cia.gov). Such a significant divergence from the rest of CENTRAL EUROPE originates in the fact that Ukraine was a Soviet Republic, where socio-economic changes took place at a slower rate. Cultural aspects also have to be taken into consideration.

The average life expectancy differs according to gender issues. In all of the NUTS 2 regions in question, females tend to live longer than males. The greatest disparities occurred in the case of the new EU Member States, especially in Poland, where the difference in average life expectancy between men and women exceeded 9 years. For the old EU member states, this value was below 7 years. These disparities may be explained by cultural differences as well as health care standards and accessibility.

Analysing the Central European region overall, the average life expectancy tends to increase gradually from East to West. The disproportions in life expectancy according to gender decline along with the westward movement. In the case of this synthetic factor, two main inner divisions occur. The first one is the distinction between old and new EU members; the other one is the eastern frontier of the EU.

This last line corresponds to the former borders between Russia and Austria–Hungary before 1914 or the Soviet Union and Poland (*Western Galicia*), Slovakia and Hungary (*Carpathian Ruthenia*) before 1944.

Migration trends

The increase of the average life expectancy is accompanied by an ageing population in general. Eurostat analysed the current situation of an ageing European society and indicated in the former Report on Demography, that the working age population between 20 and 64 is going to shrink soon (Report of 2010). Benefits from the situation of an ageing society may be alternative opportunities for new types of arrangements within the whole life circle.

Population growth in the European Union is mainly fuelled by immigration. In the EU, the peak of inflow was reached in 2007. Due to immigration of young population into the EU member states, the ageing process of the population is slowed down.

Speaking EU-wide, “more than half (55%) of immigrants to the EU in 2008 were previously residing outside the EU, while 44% of immigrants had previously also been residing in an EU-27 Member State (other one than the country of immigration).”⁵⁷

The Demography Report of the European Commission states that the Union as a whole is an attractive place for immigrants, even though differences concerning the scale and patterns exist between the countries.⁵⁸

For the CENTRAL EUROPE area (data on national level, selection of countries), the largest numbers of immigrants were reached in Germany and Italy, another high proportion of non-national citizens could be found in Austria. Poland belongs to the

⁵⁷ European Commission (2011): Demography report 2010. Older, more numerous and diverse Europeans.

⁵⁸ The data references to national level (NUTS-I) as well as to the year 2008.

group of countries with the lowest share of immigrants. In Slovakia and Hungary, the majority of immigrants were citizens of the European Union.⁵⁹

There are intense bilateral migration flows between the CE countries, but also with countries outside the program area. International migration is a very volatile process and difficult to monitor, as reliable data are lacking for many countries and definitions of migration may differ between countries.⁶⁰ Due to lack of relevant data⁶¹, an up to date analysis of migration flows cannot be provided for the CENTRAL area. The ESPON project DEMIFER provides an analysis of the main bilateral gross migration flows between the ESPON countries in the years 2006–07, based on data from the MIMOSA project, commissioned by Eurostat, which aimed to estimate immigration and emigration flows for the EU and EFTA countries according to one harmonised definition. The authors of the study state that in the reference years, large migration flows existed between East and West and between neighbouring countries in Europe, with the largest flows between Germany and Poland. Large migratory flows also existed between the Czech Republic and Slovakia.⁶²

Fertility rate

In the European Union in general, fertility is slightly increasing. The highest progression is observable in countries, which showed low fertility during the last years. Additionally there is a trend that women are delaying motherhood, giving birth much later in their lives.

For the CENTRAL EUROPE area (data on national level only), a diverse picture can be drawn:⁶³

- ▶ Especially in the Czech Republic it is observable that the fertility rate “has recovered to almost the EU–27 level, and this may be partly the effect of a transition to women having children later in life. These projections indicate a moderately shrinking population and, in spite of below–average life expectancy, the old–age dependency ratio is projected to rise above the EU–27 average.”
- ▶ The German fertility rate is below the EU–27 average, additionally, the population is shrinking and expected to decrease by nearly 10% until 2050.

⁵⁹ European Commission (2011): Demography report 2010. Older, more numerous and diverse Europeans.

⁶⁰ ESPON (2009): DEMIFER – Demographic and migratory flows affecting European regions and cities. Applied Research Project 2013/1/3. Interim Report.

⁶¹ Recent data is mostly missing (see EUROSTAT) and not comparable to older studies due to definition issues. Additionally, data is only provided on the national level, which makes it impossible to define regional origin and target areas. In the case of Germany and Italy it is impossible to extract those migratory flows which are directed to and from the CENTRAL EUROPE area.

⁶² ESPON (2009): DEMIFER – Demographic and migratory flows affecting European regions and cities. Applied Research Project 2013/1/3. Interim Report.

⁶³ See European Commission (2011): Demography report 2010. Older, more numerous and diverse Europeans.

- ▶ At the moment Italy shows the highest old-age dependency ratio within the union. The fertility rate is quite low, combined with high life expectancy. Due to the assumption of high immigration numbers, the population size is expected to remain constant.
- ▶ In Hungary, both the fertility rate as well as the life expectancy is significantly below the average; specific differences occur concerning the education level. The population in general is decreasing and expected to shrink by 10% (2050).
- ▶ In Austria, the fertility rate is below average as well, but a moderate recovery is expected. Due to the rise of life expectancy and immigration, the population is expected to grow (10% until 2050). Additionally the “old-age dependency ratio is expected to double but will stay slightly below the EU-27 average.”
- ▶ In Poland, the fertility rate is on a very low level, a moderate recovery is expected. The average life expectancy is below average; population emigration tendencies were experienced, although a change was observed during 2009.⁶⁴
- ▶ For Slovenia, both fertility rate as well as life expectancy are near the EU-27 average; additionally “the old-age dependency ratio is expected to increase faster than for EU-27 as a whole and to exceed the EU-27 level by 2050.”⁶⁵
- ▶ In Slovakia the fertility rate has increased between 2005 and 2009 and is expected to recover fully. The dependency ratio on old-age is expected to grow fast and become one of the highest in the EU-27.⁶⁶

Demographic Change

- ▶ Depopulation tendencies (former/future) and the average life expectancy as important issues
- ▶ Slight increase in fertility ⇒ slower rate of depopulation in medium/long term
- ▶ Variances within population numbers ⇒ conflicts such as altered labour markets or influenced household demand (differentiated lifestyles and standards)
- ▶ Shrinking population (1998–2008) within the Eastern part of the Czech Republic as well as in Hungary, Slovenia, Slovakia and Poland
- ▶ Diversity of shrinking and growing regions exists side by side
- ▶ Highest values of average life expectancy in Western Austria, South-Western Germany and Western Slovenia
- ▶ Relatively low average life expectancy was observed in Hungary

⁶⁴ Ibid

⁶⁵ Ibid

⁶⁶ Ibid

- ▶ The average life expectancy tends to increase gradually from East to West
- ▶ Highly polarized CE population in terms of income, education, health care, demographics, ICT accessibility and employment
- ▶ Growth in the EU mainly fuelled by immigration
- ▶ Peak of immigration in 2007
- ▶ Largest numbers of immigrants in Germany and Italy (national values), additionally high numbers in Austria (national values)
- ▶ Partly recovery of the fertility rate (Czech Republic, Austria, Poland, Slovenia and Slovakia)
- ▶ Fertility rate below the EU-27 average (Germany, Italy and Hungary)

2.1.5 Social Cohesion

The development of human capital as well as the strengthening of social cohesion and the maintenance of equal opportunities represents a key source of growth in the European member states. Social Cohesion in general is defined as a “fight against poverty, inequality and social exclusion.”⁶⁷ Furthermore co-operation as well as the improvement of access to services in rural areas is an important issue of the cohesion policy.⁶⁸

The population of CENTRAL EUROPE is highly polarized in terms of income, education, health care, demographics, ICT accessibility and employment. These disparities derive from historical divisions as well as differences in culture and lifestyle. Social polarisation is observable at a national as well as cross-border and regional level. In the case of CENTRAL EUROPE, the following types of regions are distinguishable with regard to social polarization⁶⁹:

- ▶ Equal incomes – middle-class regions and low youth unemployment: Germany (excluding the former GDR) and the vast majority of Austria. This type is characterized by high income levels and low youth unemployment (under 25) that stands below the European average. This type of regions is generally well-prepared for the challenges of social polarization.
- ▶ Highly educated middle-class regions: Urban regions of Vienna, Prague, Budapest, and Genoa. This type of regions is distinguished by its equal income distribution and a significant share of young people with higher education (and lifelong learning). These are also the main university centres of the CE region, thus youth unemployment is relatively low.
- ▶ Low income and high unemployment rates: East German regions of the former GDR. Social polarization in Germany caused by the “Iron Curtain” divisions is still tangible. The income levels are relatively low and the unemployment rate is above the European average.
- ▶ Low income – income detracted regions: Poland, Eastern Hungary and Eastern Slovakia. This type is vulnerable to the challenges of social polarization. The main fragile point is the low income, which contributes to the below-average adaptive capacity of these areas.
- ▶ Low income – income improved regions: the Czech Republic, Western Slovakia, Western Hungary and Slovenia. Areas located along the former eastern border of the EU. This type is economically more prosperous in comparison to neighbouring, eastern regions.

⁶⁷ Rehman Sobhan: Promoting Social Cohesion in the Asia Region: Lessons from the EU Experience.

⁶⁸ European Union (2010): Investing in Europe’s future. Fifth report on economic, social and territorial cohesion.

⁶⁹ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

- Vulnerable access to SGEIS – wealthy households regions: Northern Italy. This type possesses an average vulnerability to the challenges of social polarization compared to the other regions of CE. The main weakness, however, is their underperformance in the Supplemental Generic Environmental Impact Statement (SGEIS)

These topics also mark the issue of minorities within CENTRAL EUROPE. Especially in Hungary as well as in Slovakia, the Roma population, which “are one of the most marginalised groups in the EU, facing deep and intractable social problems related to low levels of education, high unemployment, inadequate housing, poor health, and wide-ranging discrimination, all of which are interrelated and create a viscous circle of social exclusion from which it is difficult to extract themselves on their own”.⁷⁰

An analysis of the data (data basis: 2000) on household expenditures in Hungary provided evidence of poverty of the Roma population. The disparities in the poverty rates of Roma and non-Roma population shows: “relative poverty among Roma was between four and ten times higher than among the non-Roma population.”⁷¹ Within CENTRAL EUROPE (data on national level), Hungary has the largest Roma population (600.000 – 800.000 people), followed by Slovakia (350.000–520.000), the Czech Republic (150.000–300.000), Italy (120.000 – 160.000), Germany (70.000–130.000) and Poland (20.000–60.000).⁷²

However, studies about minorities – especially Roma population – in Europe, mainly mention the improvement of the situation of the Roma population within the European Union and point out the political options of the representation of interests.⁷³

Employment and labour mobility

In the EU, the unemployment rate decreased between the years 2000 and 2008. Due to the economic crisis, unemployment has risen again from 2008 onwards; for the CENTRAL EUROPE area, differences concerning unemployment occur mainly on former geopolitical borders:

The southern part of the Central European area witnessed an increase in long-term unemployment. This includes the northern regions of Italy and all of Hungary, where the rise is most significant (reaching its maximum value of 3,81% for Eszak – Alföld).

⁷⁰ European Parliament (2011): Measures to promote the situation of Roma EU citizens in the European Union.

⁷¹ Ibid

⁷² Ibid

⁷³ Tomic et al.: Roma in Osteuropa. Transformation des Romabildes im wissenschaftlichen Diskurs.

The former “Iron Curtain” separation line still manifests itself, especially in the case of the unemployment rate in the group of 25–64 years old. The level of this indicator is the lowest in Austria, southern regions of Germany and Northern Italy. In 2010, the lowest value (2,3%) was registered in Provincia Autonoma Bolzano (Italy), Salzburg and Tirol (Austria), in the city of Vienna 6,2% of the population between 25–64 years were unemployed.

On the other hand, the highest unemployment rate (25–64) was to be found in former GDR regions (reaching 12,3%), the bordering regions of the north-east of Hungary (14,7%) and Central-Eastern Slovakia (where it reached the maximum value for the entire CE region of 16,1%, for Východné Slovensko). In the year 2010, the unemployment rate in the 25–64 age group for Ukraine was at the level of 8,8% (World Bank).

Comparing the years 2004 and 2010, a similar North–South division line could be drawn. The North is characterized by a positive tendency in the gradual fall of the unemployment rate in this age group – a tendency that becomes clearer as one advances farther south. In general, the northern regions registered a decrease in the unemployment rate of the population aged 25–64 between those two years, with the greatest value recorded for the region of *Dolnośląskie* in Poland, where it reached a decline of –11,7%.

On the other hand, the most significant increase (above 6%) in the unemployment rate of this group of the population, comparing the years 2004 and 2010, was to be observed in *Eszak – Alföld* and *Eszak – Magyarország*, two regions located in North–East Hungary.

The unemployment factor strongly reflects the disparities across the CE region in socio-economic conditions challenging an even and balanced transnational development. On-going labour market transformations (service/knowledge economy) may be one reason for unemployment and may raise calls for adaption efforts. Effected regions are peripheral areas as well as heavily industrialised CENTRAL EUROPEAN areas.

The transformation of labour markets due to globalisation and division of labour leads to social shifts: new forms of labour, the opening of new markets and the off-shoring of activities represent a main threat within former industrial regions. Due to these new challenges, regions need to compete internationally or identify certain niches for their future development. “The exposure is correspondingly expressed by a region’s unemployment rate.”⁷⁴

⁷⁴ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011

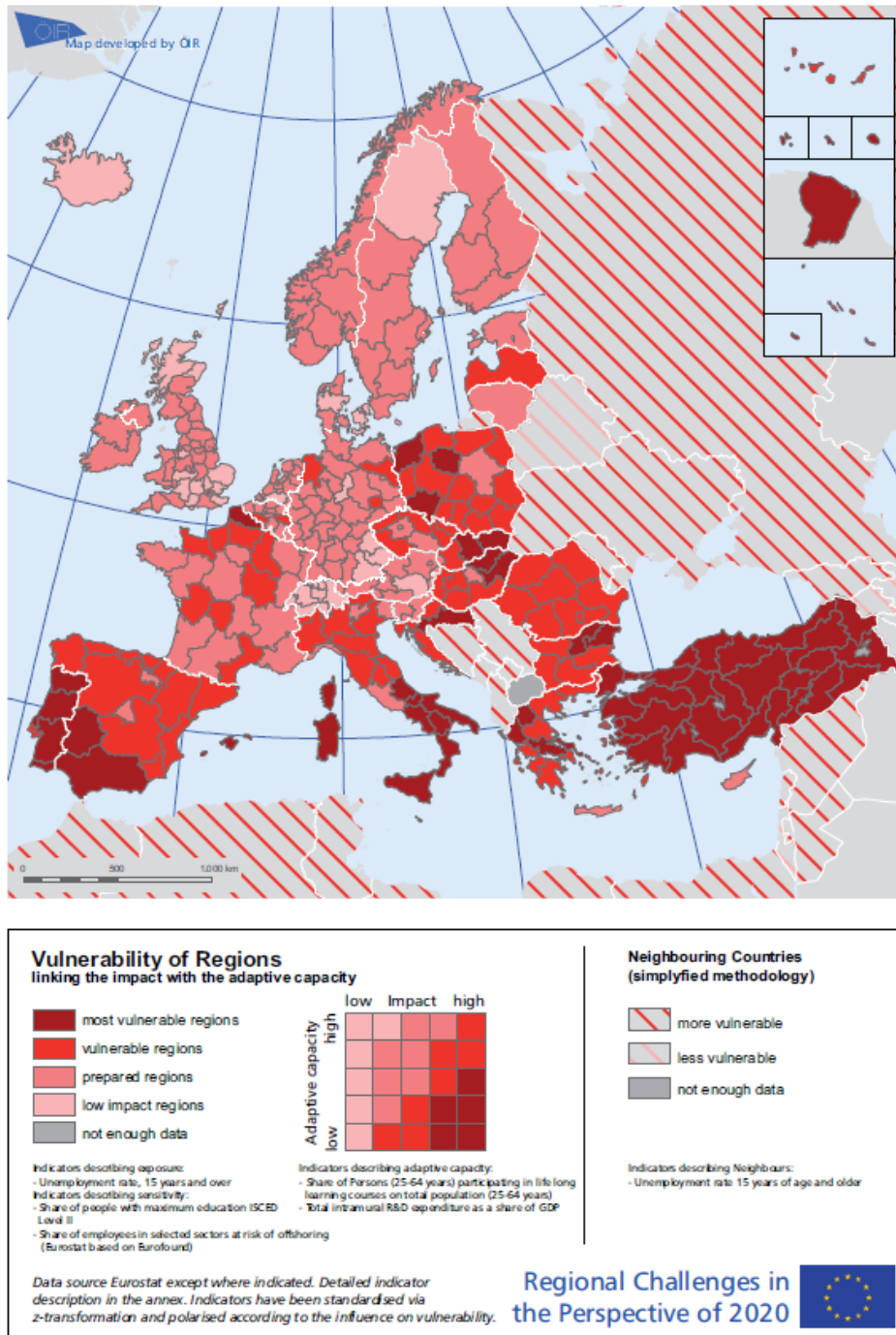
The following map from “Regional Challenges in the Perspective of 2020” identifies the vulnerability of labour market transformations (following the same classification as mentioned in the chapter of accessibility). Within this classification, the CENTRAL EUROPE area can be identified as a very heterogeneous one: Especially Austria, Slovenia, parts of Italy as well as the central area of the Czech Republic and Germany are classified as prepared areas. Parts of Germany (Bavaria) and Austria (Styria) are even defined as low impact regions. Besides, Northern Italian, Hungarian, Slovakian, Czech and Polish regions were identified as vulnerable regions; the most vulnerable regions within the CENTRAL area were identified in Eastern Hungary, Eastern Slovakia and Western Poland.

The Study Regional Challenges in the Perspective of 2020 identifies people's engagement in life-long learning and greater expenditures in research and development as pioneer impacts for better chances for regional adaption to challenging labour market transformation.⁷⁵

Regarding labour flexibilisation, a report from the European Commission of 2010 analysed the flexibility of working hours in 30 EU-Member states. The different types of work were divided into part-time work, working overtime and working long hours. Concerning part-time work, Italy was around the EU-27 average, Poland, Slovenia, the Czech Republic, Hungary and Slovakia were below the average and Germany as well as Austria were above the average. In the case of working overtime, Slovenia, Germany, Italy and Slovakia were around the EU-27 average. Poland and Hungary were below the average and Austria as well as the Czech Republic above the EU-27 average. The third category of working long hours shows, that Slovakia and Slovenia are around the average, Italy, Hungary and Germany are below the EU-27 average, Poland, Austria and the Czech Republic were categorised above the average.

⁷⁵ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

Map 20: Labour market transformation – Vulnerability



Source: Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

Within this report, Austria was identified as one of the most flexible countries, due to the high ranking on all three indicators.⁷⁶

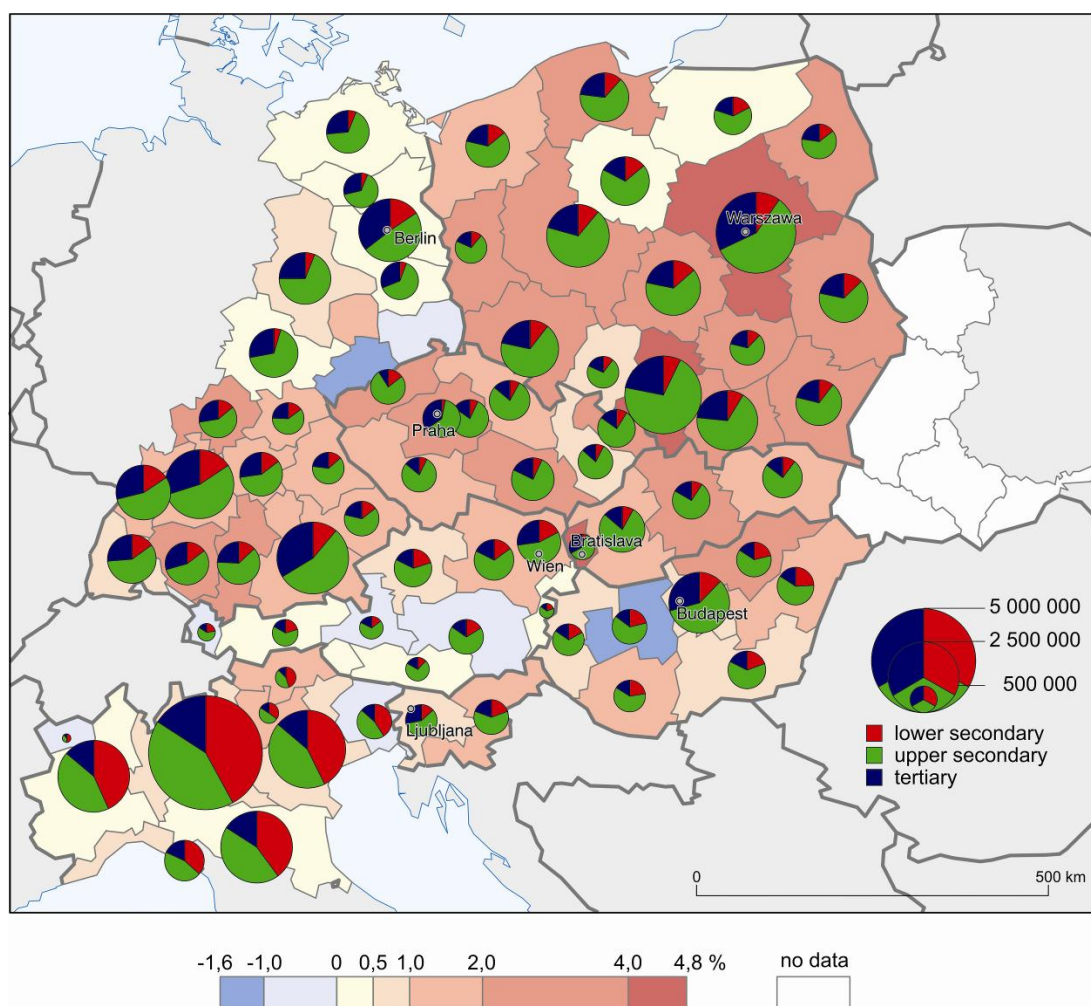
⁷⁶ European Commission (2010): Flexible working time arrangements and gender equality – A comparative review of 30 European countries. Online

Education

Tertiary or higher education broadly refers to all post-secondary education, including but not limited to universities. The percentage of the population with tertiary education reflects the level of “scholarization” of a region. The highest share of population with tertiary education in the Central European area is concentrated around its greatest cities, which simultaneously fulfill the role of the countries’ primary centres of education (i.e., Berlin, Bratislava, Budapest, Dresden, Leipzig, Lviv, Munich, Prague, Stuttgart, Warsaw and Vienna).

These are regions with a high level of urbanization and a significant employment rate of highly qualified individuals.

Map 21: Education structure of population aged 25–64 in relation to total population size, 2010; changes in population with tertiary education in years 2008–2010



Source: Eurostat

The share of Europe’s population with tertiary education in the year 2010 was close to or exceeded 30% (25–64 age group) in most of the discussed regions, figures had risen from 2008. This increase was most significant in the case of the new EU

countries, i.e. in the Warsaw area (4,8% for *Mazowieckie* region), the Bratislava region (4,4% rise) and the Prague region (3,9%), which are at the same time the greatest national university-level urban centres. These values are evidence of the prevalent tendency for the level of scholarization to increase in this part of the CE region.

On the other hand, a decrease in the proportion of the population with tertiary education in the years 2008–2010 occurred almost exclusively in the old EU Member States. The most significant fall was observed in the former GDR, Austria and the northern regions of Italy. The only region in the new EU member countries that indicated a decrease of this factor was in Hungary.

The fall in the percentage of the population aged 25–64 with higher education is caused by the aging of society, which is a significant problem in the mentioned areas as well as brain drain occurrences due to lack of demand on labour.

Among the old EU Member States, the highest rise in the percentage of tertiary-level educated population occurred in the Vienna region (3,4%), a significant increase in comparison to other university centres like Berlin (1,9%) or Stuttgart (1,8%).

Considering the size of Europe's population aged 25–64 at the NUTS 2 level, the region of *Lombardia* in Northern Italy, with over 5,5 million inhabitants, had the greatest human potential. The share of the population with tertiary education in that age group was not that distinctive (15,9% in the year 2010), however taking into account the significant population size, this region is likely to be more competitive in relation to the rest of the CE region. Other regions characterized by a significant population (aged 25–64) exceeding 1 million residents correspond to major urban areas, out of which the region of Berlin had, in 2010, the highest share of tertiary education (over 35%).

Focusing on gender aspects, as well as female participation on education, it can be mentioned, that within the EU generally more women have a tertiary education than men (aged 25–64). This intensifies for those aged 25–64 (Map 21). This tendency is evident at regional level. For CENTRAL EUROPEAN regions it is observable, that there exists a division between Austrian and German regions and the rest of the CE area. In Germany, as well as some regions in central Austria, the education level of women is below the level of men. In some regions in Western Austria, as well as in regions around the capital Vienna, the value lies above the average. Especially in Italian Regions and in Polish, Czech, Slovakian, Hungarian and Slovenian regions, women are better educated than men (ranging from 120% to more than 150% – for comparison: the EU-27 value lays around 126).

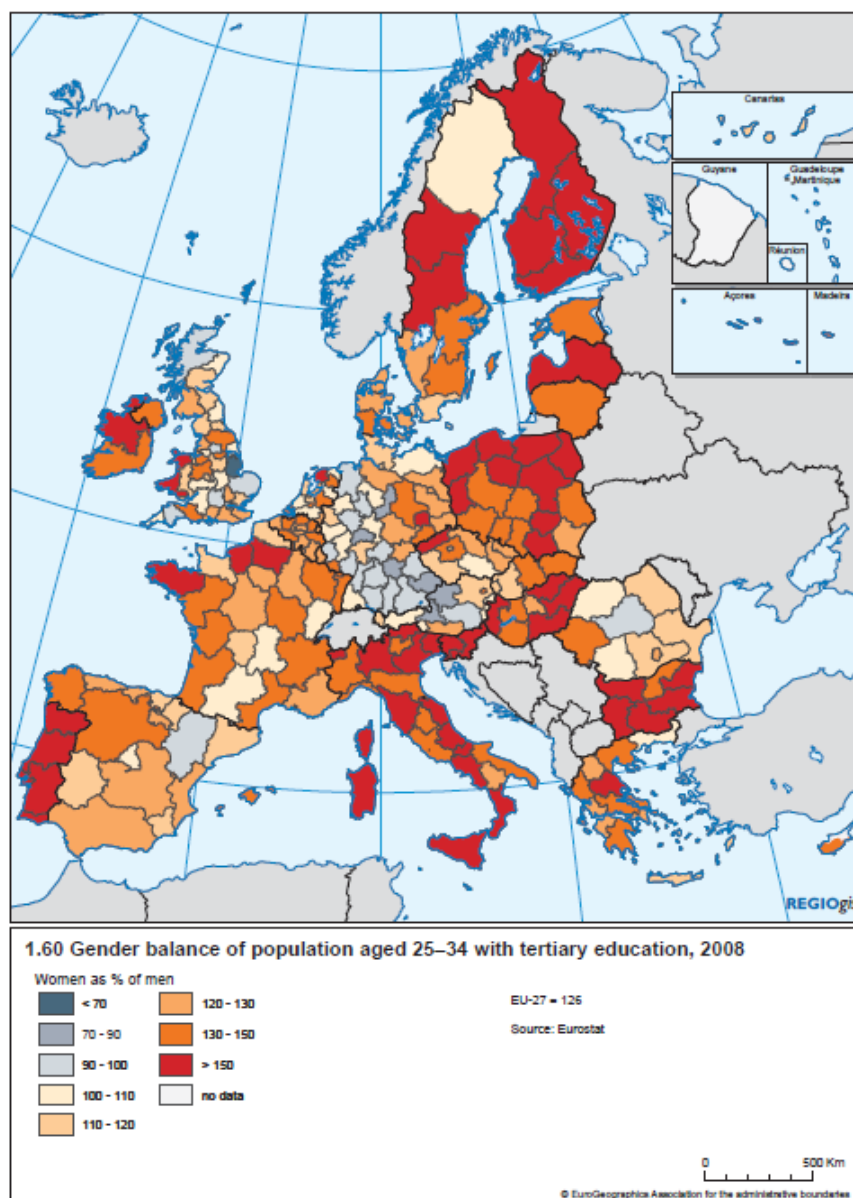
Social Services (Health Care, Childcare, Elderly Care)

Another aspect of social cohesion is the question of social services and the accessibility to services of general economic interest. The exposure of a region concerning these interests depends on the number of doctors, the expenditure for elderly care and children care etc. A low value of these factors represents less regional access to utilities and services.

The Study “Regional Challenges in the Perspective of 2020” identified vulnerabilities of regions towards the access to these services. These are representing the facilities of social services. Map 23 below illustrates the level of infrastructure facilities within CENTRAL EUROPE and depicts the status quo far beyond average standard. An east-west divide is clearly visible, due to the existence of prepared regions (Austria, Germany) and vulnerable regions in Eastern areas: Germany and Austria, as well as a part of Central Hungary are defined as prepared regions. Italian, Slovenian, Hungarian, Slovakian, Czech as well as Polish regions are mostly classified as vulnerable regions. One centrally located Czech region is defined as the most vulnerable region within the CENTRAL EUROPE region. Especially in rural regions it is notable, that an impact below average exists, mainly due to shrinking population combined with low investment potentials.⁷⁷

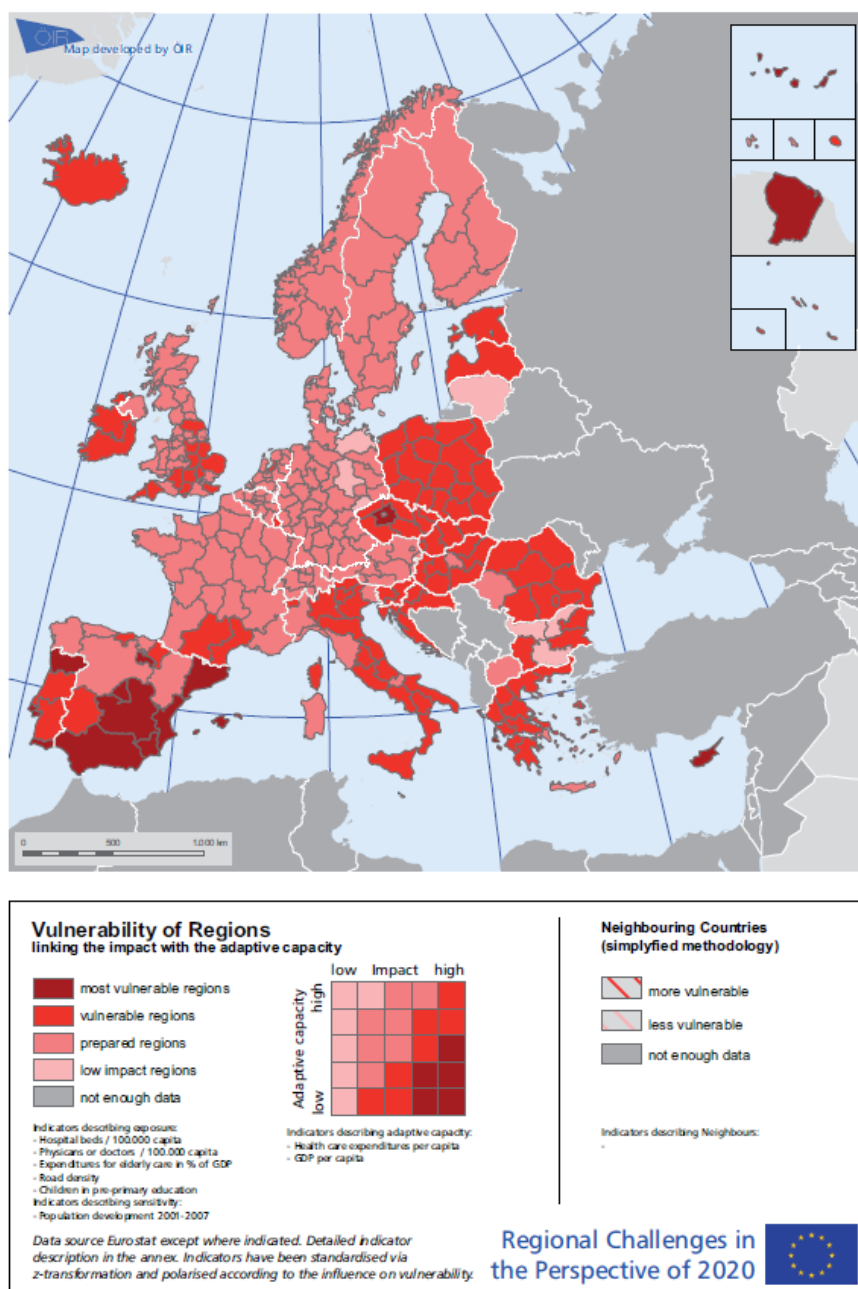
⁷⁷ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

Map 22: Population gender balance, aged 25–34 with tertiary education, 2008



Source: European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Map 23: Access to SGEIs – Vulnerability



Source: Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

Other topics are issues of safety and trust. Regional crime figures influence the feeling of safety and trust of people. In the EU, the murder rates are quite low; homicide rates in 2005 in CENTRAL EUROPE are very low in Germany, Italy, Slovenia and western Austria (below 1 Homicides per 100.000 inhabitants). Higher values

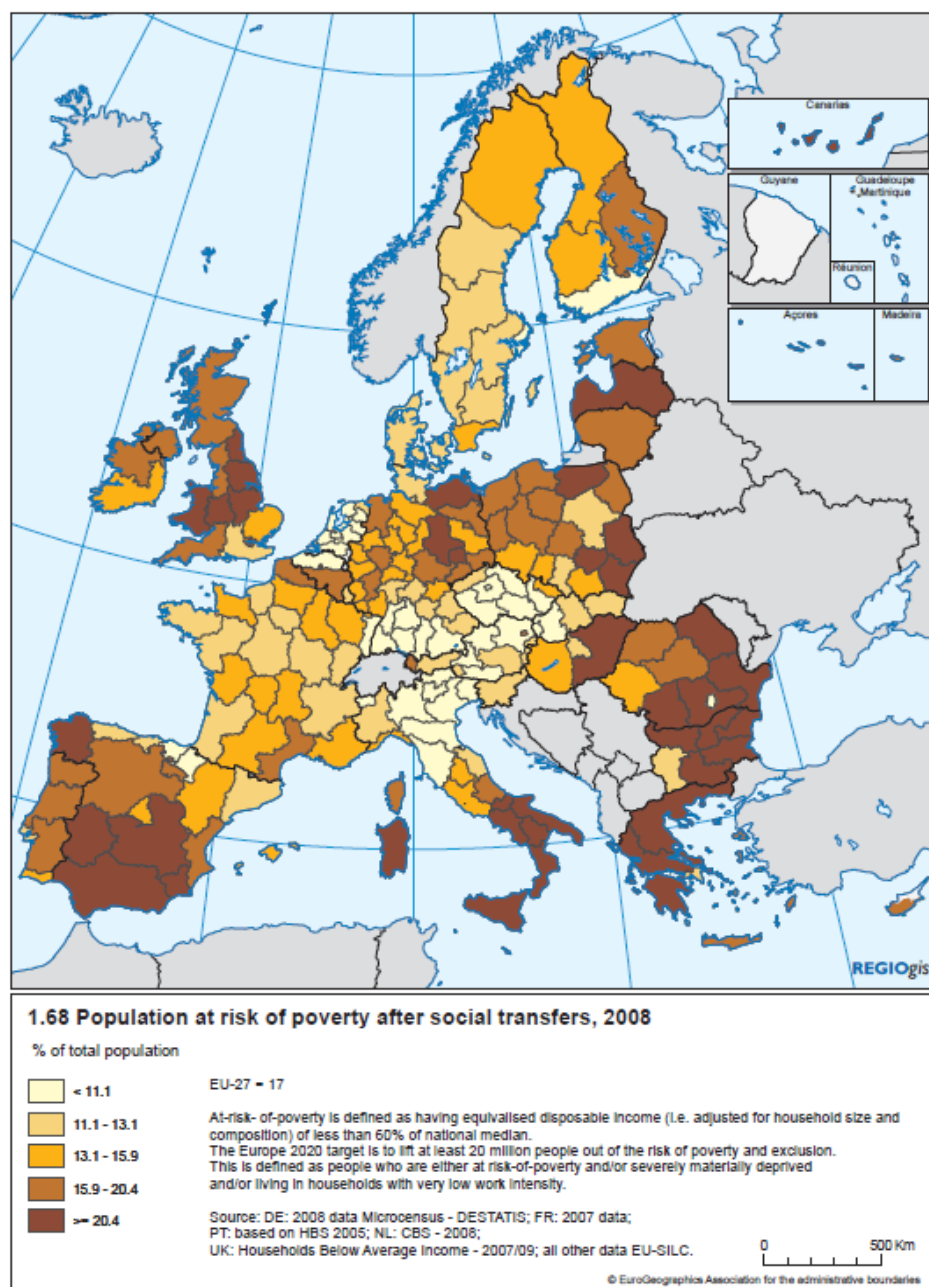
can be identified in Poland, the Czech Republic, eastern parts of Austria, Hungary and Slovakia (up to 5 homicides per 100.000 inhabitants).⁷⁸

Poverty

Another issue, with main impact on the social cohesion in the EU is expensive housing, leading in a wider sense to poverty. The Population at risk of poverty (data from 2008) illustrates a diverse image within the CENTRAL AREA. Especially in German, Austrian, Czech and Italian Regions, the percentage of the population at risk of poverty lies below 11,1%. Higher numbers occur in western Austria and Slovenia as well as in parts of Slovakia and Poland (up to 13%). Especially Hungarian and Polish regions show diverse levels of poverty, reaching more than 20%, especially in the very eastern parts.

⁷⁸ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Map 24: Population at risk of poverty, 2008



Source: European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Social cohesion

- ▶ Roma population as marginalised group of the European Union (Hungary, Slovakia)
- ▶ High disparity rates of Roma and non-Roma population ⇒ relative poverty among Roma between four and ten times higher than among non-Roma population
- ▶ Highest unemployment rate (25-64) was to be found in former GDR regions

(reaching 12,3%), the border regions of the north-east of Hungary (14,7%) and Central-Eastern Slovakia (16,1%).

- ▶ Transformation of labour markets due to globalisation/division of labour ⇒ new forms of labour, opening of new markets, off-shoring of activities
- ▶ Austria, Slovenia, partly Italy, the Czech Republic and Germany are so-called prepared areas on labour market transformation
- ▶ Partly Germany and Austria defined as low impact regions on labour market transformation
- ▶ Vulnerable regions concerning labour market transformations are Northern Italian, Hungarian, Slovakian, Czech and Polish regions
- ▶ Most vulnerable regions concerning labour market transformations are Eastern Hungarian, Eastern Slovakian and Western Polish regions
- ▶ Labour flexibility ⇒ Austria identified as one of the most flexible countries
- ▶ Decrease in the proportion of the population with tertiary education in the years 2008–2010 in the old EU Member States.
- ▶ Decrease in the percentage of the population aged 25–64 with higher education due to aging
- ▶ Most regions: Women outperform men concerning tertiary education
- ▶ Clear east-west divide in social services (health, children, elderly)
- ▶ Diverse levels of poverty: highest levels (>20%) ⇒ Hungarian, Polish and very Eastern regions

2.1.6 Climate Change

The main factor that contributes to global climate change is the increased emission of greenhouse gases. The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental scientific body to assess the effects of climate change, being founded from the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO). The IPCC publishes emission scenarios for the development of climate change scenarios. Within the latest report on scenarios, it is stated, that the major driving forces of future greenhouse gas emissions are issues such as demographic change, social and economic development, and the rate and direction of technological change. This finding is consistent with the IPCC 1990, 1992 and 1995 scenario reports.⁷⁹

A sudden climate change caused by mankind can result in numerous threats to the natural environment and humanity. Climate change contributes to the loss of biodiversity, a hike in the probability of occurrence of severe weather conditions and irreversible changes to the global ecosystem; illustrating irreversibility and damage taken into account with the commitments on the reduction of greenhouse gas emissions by 2020. The most important challenge for the vast majority of the Central European region is to increase the degree and intensity of production of renewable energy, and hence reduce the need to resort to traditional sources of energy.⁸⁰

It is expected that natural hazards are likely to be more frequent as global climate change progresses. An increase in mean and maximum temperatures has been observed around the globe, as have changes in precipitation, in both amount and patterns. These contribute to a greater frequency and intensity of extreme events such as droughts, heat waves, floods, storms, mass movements etc. As a result of climate change, a rise in global sea levels is being observed; the IPCC-scenarios identified a global-mean sea level rise by 13–68 cm until 2050.⁸¹ Further consequences include the retreat of glaciers, the extension of the vegetation period and the tendency for weather conditions to be less stable and predictable.⁸²

Natural hazards cause damage to infrastructure, arable land, valuable ecosystems and eventually the regional economy, potentially leading to the deepening of inner disparities and social polarization. Another critical factor is the cost to human life.

There are two main challenges for the Central European area in response to the more frequent occurrence of natural hazards. The first is to reduce the impact of climate change on the natural and human environment. The other is adaptation to

⁷⁹ ICPP (2000): IPCC Special Report. Emissions Scenarios.

⁸⁰ Climate Action. Energy for a Changing World, European Commission.

⁸¹ ICPP, online (2012): Some Key features of Climate Scenarios for Europe.

⁸² Climate change impacts in Europe, Final Report for the PESETA research Project, JRC, European Commission, 2009.

the new conditions. As the impact of climate change increases, so must the adaptive capacity of a region⁸³

The *sufficiency index* is an indicator for adaptive capacity, describing the state of progress in reaching the Habitat Directive.

It is assumed that regions with higher GDP levels can rather afford adaptation and take protective action in order to mitigate and curb the risk of natural hazards, of which river floods, winter storms, storm surges and landslides are of the highest concern for CENTRAL EUROPE.

By analysing the map of integrated vulnerability to natural hazards, it is observable that the countries of the former Eastern Bloc are generally more vulnerable to natural hazards due to their relatively weak adaptive capacity.

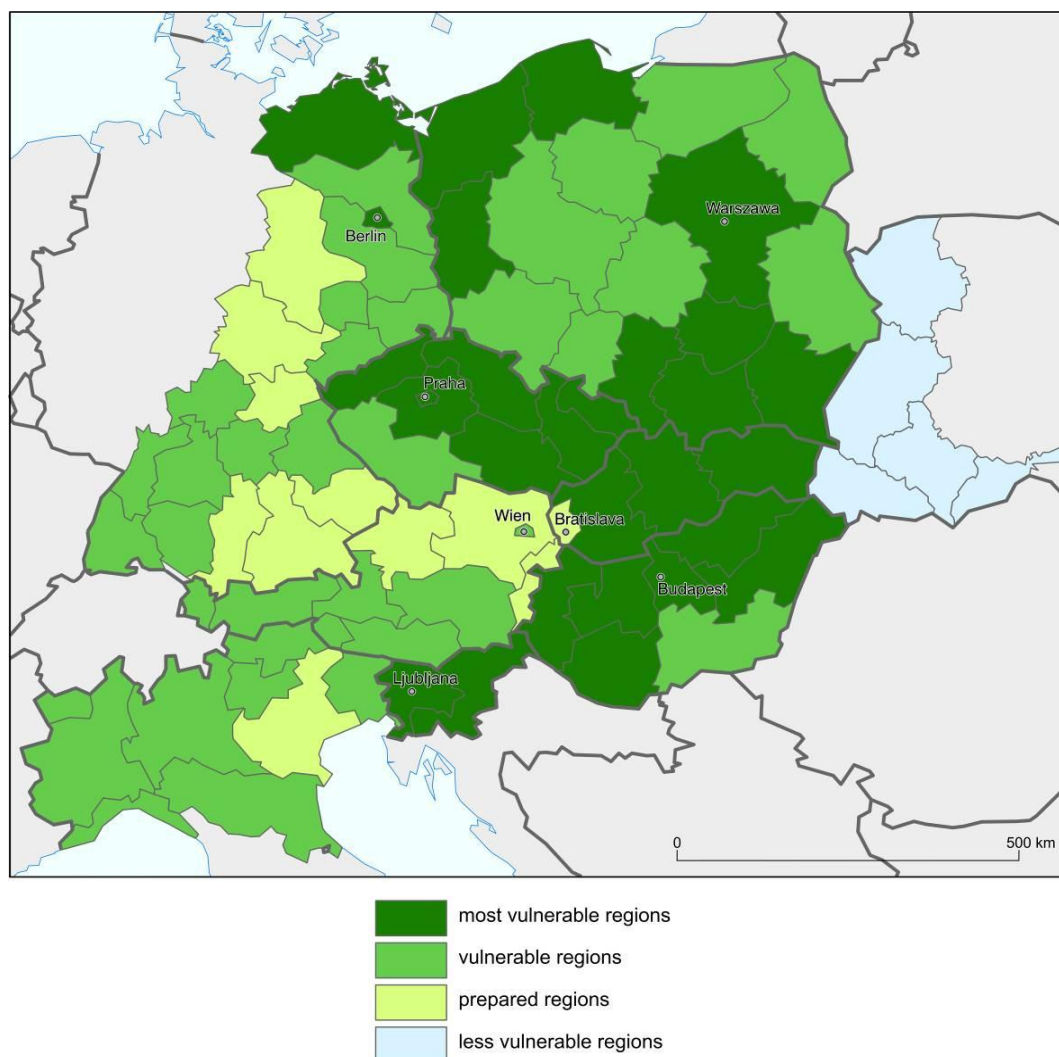
The most significant natural hazard observed in the Central European region in terms of scale and impact are river floods, caused by excessive precipitation and temperature rise as well as inappropriate and careless land use. This is an interregional problem in the case of the CE area, because major river basins are often situated in more than one country. In order to prevent the risk of flooding and reduce its negative impact, transnational measures and cooperation must be put into place. The Flood Directive 2007/60/EC⁸⁴ requested for an evaluation of flood risk followed by flood risk maps by the year 2013, and flood risk management plans by 2015 in European Union Member States. These will indicate the countries' sensitivity to river floods.

The analysis of the physical exposure to floods in CENTRAL EUROPE leads to the conclusion that this particular region is at high risk in comparison to the rest of the European continent. Almost all of its area is potentially exposed to flooding. The most alarming perspective is given by the Danube river basin as it is the greatest and most powerful river of the CE region. The enormous basin covers most of the region's territory. Apart from that, a significant physical exposure to floods is to be found in South and Southeast Poland, the North-West of the Czech Republic, as well as a few regions that formerly made up the GDR (Vistula, Odra and Elbe rivers).

⁸³ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis, Commissioned by European Commission Directorate General for Regional Policy.

⁸⁴ Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the Assessment and Management of Flood Risks.

Map 25: Natural hazards. Map of vulnerability



Source: IGSO PAS based on Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011.

Map 25, uses again the vulnerability typology which defined meaningful indicators for adaptive capacity, ranging from less vulnerable regions to most vulnerable regions.

It resulted in four types of regions to illustrate the vulnerability of CENTRAL EUROPE regions due to natural hazards:

- ▶ the impact is either greatly below average or below average and the adaptive capacity greatly above average: *less vulnerable regions*
- ▶ the adaptive capacity is higher than the impact or both are average: *prepared regions*
- ▶ the adaptive capacity is the same or slightly lower than the impact: *vulnerable regions*

- ▶ the impact is above average and the adaptive capacity is below: *most vulnerable regions*.

The sub-alpine regions of Northern Italy are also characterized by a relatively high exposure to this natural hazard.

Floods in CENTRAL EUROPE occur more frequently in the spring time nowadays. This is due to a more rapid melting of the snow cover. Another period of high flooding risk June, owing to the excessive precipitation typical of that month. The most vulnerable CENTRAL EUROPEAN areas concerning flooding are areas in Germany and western Poland.⁸⁵

Apart from climate change, a critical factor contributing to a higher flood risk is inappropriate and in many cases careless land use. This includes actions such as settlement in flood plains, deforestation and cultivation of steep slopes. A greater surface run-off not only contributes to flooding, but provokes soil erosion and landslides.

Landslides present a serious threat, mainly for mountainous and hilly areas of the Central European region, and the likelihood of this natural hazard is strongly determined by the steepness of the slope. The Alpine and Carpathian regions are most threatened by landslides. Deforestation and inappropriate land use contribute to enhancing the risk.

Winter storms are most likely to occur in the vicinity of the Baltic Sea (coastal regions of Germany and Poland). The probability of this natural hazard gradually declines as one heads farther South.

The Baltic Sea region is also highly endangered by the occurrence of storm surges. The coastline of Poland and Germany tends to move inland (with a domination of destructive waves). Another pivotal part of CENTRAL EUROPE affected by this kind of natural hazard is the coastline of the Adriatic Sea (Slovenia and the northern regions of Italy).

Rising mean and maximum temperatures as well as increasing frequency and intensity of heat waves range amongst the most consequential events concerning human comfort and sustained health over larger areas and longer periods of time. Heat waves are expected to become more intense with climate change. The rising number of heat days (air temperature rises above 30°C) and tropical nights (minimum air temperature does not drop below 20°C during the night) in vast areas of Europe cause heat stress and heat mortality during the summer months in many

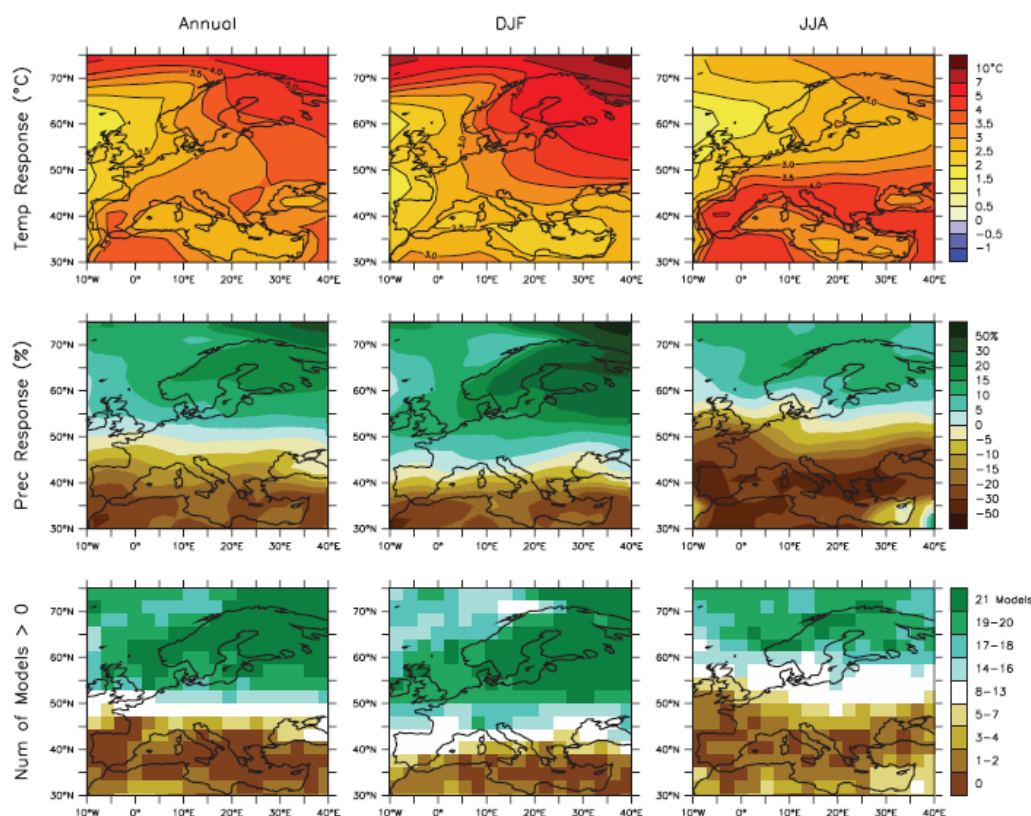
⁸⁵ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

regions. Gradual climate change also influences health through changes of habitat of vectors bearing diseases.

IPCC-findings on the increase of temperature in Europe predict an increase of European annual temperatures between 0,1 and 0,4 °C per decade; additionally especially eastern Europe will warm more rapidly in winter and winters which are now classified as cold winters may “become much rarer by the 2020s and disappear almost entirely by the 2080s. In contrast, hot summers become much more frequent.”⁸⁶

Additionally it is indicated, that a contrast between southern and northern European/CENTRAL EUROPEAN regions may exist concerning precipitation changes (increase in North and decrease in the South – see figure below).

Figure 7: Changes in temperature and precipitation over Europe from the MMD-A1B simulations. ⁸⁷



Source: Hesselbjerg Christensen et al.: Regional Climate Projections.

⁸⁶ ICPP, online (2012): Some Key features of Climate Scenarios for Europe.

⁸⁷ Top row: Annual mean, DJF and JJA temperature change between 1980 to 1999 and 2080 to 2099, averaged over 21 models. Middle row: same as top, but fractional change in precipitation. Bottom row: number of models out of 21 that project increases in precipitation.

For the occurrence of weather extremes, the IPCC-scenarios do not explicitly quantify changes in daily weather extremes. However, it is very likely that frequencies and intensities of summer heat waves will increase throughout Europe.⁸⁸

Taking the projected change in the number of tropical nights in CE (1961–1990/2071–2100) into consideration (see map 26), it is visible that in some regions in Italy as well as in western Austria, Eastern Germany and Northern Poland, the number of tropical nights will increase only slightly (0–1). Other regions in Austria, Germany, the Czech Republic and Poland register a change of 1 to 3 tropic nights. Regions, where the number of tropic nights will rise stronger are mainly Slovenian, Hungarian and Slovakian regions (up to 10).⁸⁹

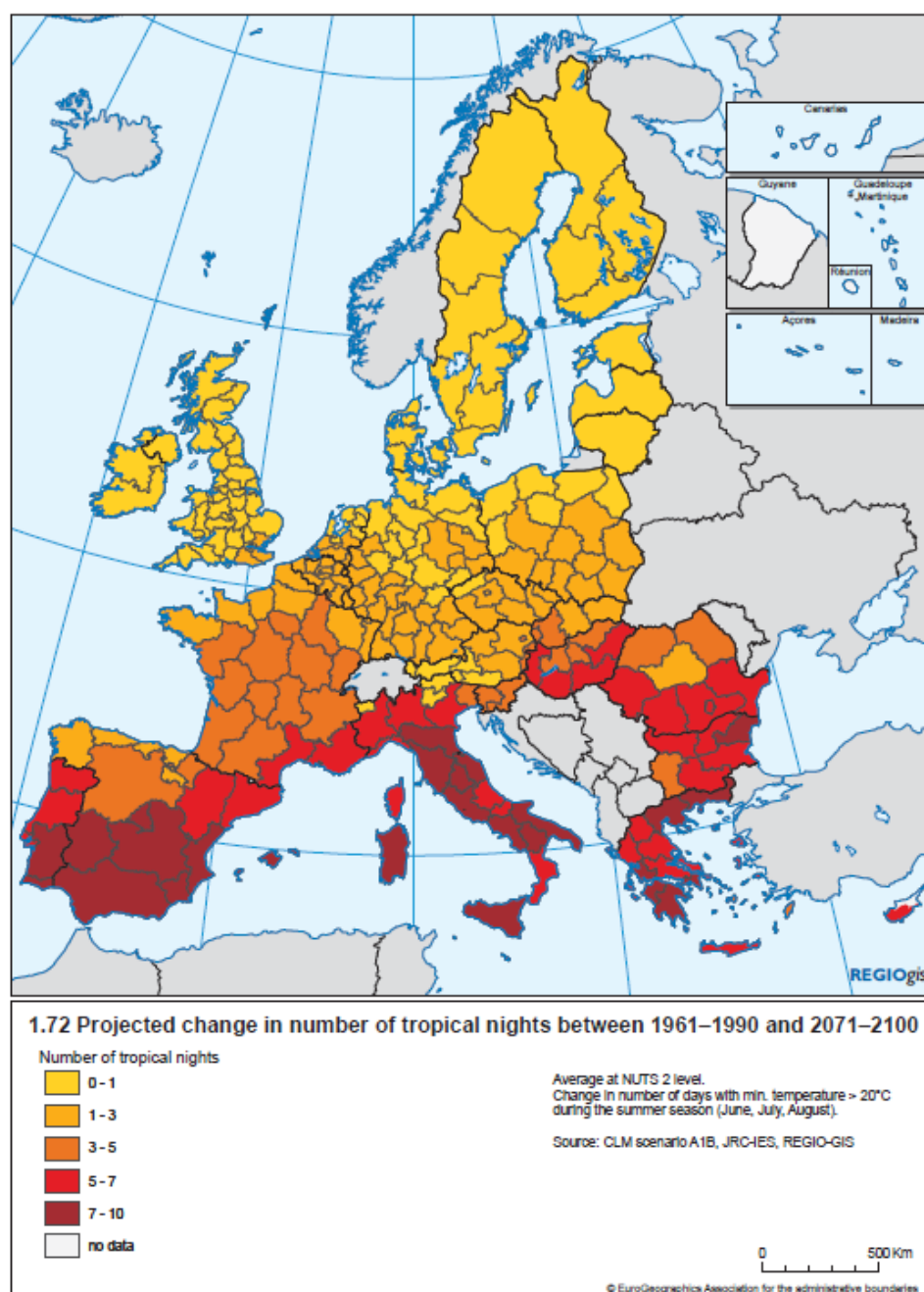
Areas with high population density, little space for recreation and dense settlement structures are sensitive to the increasing occurrence of heat days and tropical nights because increased thermal mass and reduced humidity lead to heat island effects. Presently the most exposed regions regarding heat during the night time are the regions on the Mediterranean coast line. The increasing day time temperature also affects the South of Europe, but rather than the coast lines, inland regions are affected most (e.g. Central Iberian Peninsula, North of Italy and the Balkans). New Member States are mostly vulnerable to heat waves due to below average adaptive capacities. In other words, they will suffer less from impacts on account of heat waves, but due to their limited health care system, health issues might still arise; especially in urban agglomerations this trend is most likely to be aggravated.⁹⁰

⁸⁸ ICPP, online (2012): Some Key features of Climate Scenarios for Europe.

⁸⁹ Ibid

⁹⁰ See Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011

Map 26: Projected change in number of tropical nights (1961–1990, 2071–2100)



Source:

European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Another serious consequence of climate change is the scarcity of water available. This is particularly crucial in the case of water-dependent areas. Lack of water may become a barrier for local development. Social awareness for appropriate and efficient water management must be enhanced, as households generally tend to use more water nowadays than in the past. Higher energy, industry and agricultural production also contribute to greater water use. Owing to the fact that countries cannot significantly increase the amount of water available in their territories, they will be forced to compensate by improving efficiencies.

Within the analysis of Regional Challenges in the perspective of 2020 – Phase 2 the issue of water dependency was tackled as well, applying the methodology of so-called vulnerability.⁹¹

In estimating the susceptibility to water dependency the CE region, the following factors were taken into consideration: the annual difference in precipitation, the water exploitation index, the percentage of irrigated land, the industry's share of GVA (Gross Value Added), the proportion of hydropower production in total energy production and implementation of the Water Framework Directive.

The CENTRAL EUROPE area is marked as vulnerable, although regional differences can be identified. In the last decades a clear trend of reduced precipitation in the most Southern regions (going in-hand with the IPCC-scenarios⁹²) and a gain in many Northern regions was observed and is expected to continue. However, there may exist “a marked contrast between winter and summer patterns of precipitation change. Most of Europe gets wetter in the winter season (between +1% and +4% per decade) (...). In summer, there is a strong gradient of change between northern Europe (wetting of as much as +2% per decade) and southern Europe (drying of as much as -5% per decade).”⁹³

The Czech Republic, Austria and Slovakia are mainly termed as vulnerable regions; additionally the North-eastern Part of Poland can be identified as vulnerable, the South-western regions were termed as most vulnerable regions such as the North of Italy and part of Slovakia. Northern regions of Hungary were identified as vulnerable regions, although the Southern and South-eastern areas were identified as prepared regions.

Besides, agriculture and forestry are fields directly exposed to climate change, e.g. temperature increases or shifts in precipitation patterns. The sensitivity of the region depends on the importance of these sectors for that region. Adaptive capacity depends on the willingness and capacity to respond to climate change, i.e. the possibility of changing or diversifying the cultivation. However, it can be mentioned that, general risks for agro-climatic regions “relate mainly to potential changes in precipitation patterns, with projected increases in winter rainfall and decreases in water availability in summer.”⁹⁴ The precipitation change for the CENTRAL EUROPE area will be up to 20% maximum (projected change of precipitation between 1961–1990 and 2071–2100). Concerning the change of temperature it is expected, that in most of the regions the temperature will increase

⁹¹ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis, Commissioned by European Commission Directorate General for Regional Policy.

⁹² ICPP, online (2012): Some Key features of Climate Scenarios for Europe.

⁹³ ICPP, online (2012): Some Key features of Climate Scenarios for Europe.

⁹⁴ AEA Group (2006): Adaptation to Climate Change in the Agricultural Sector. Online.

between 2°C and 4°C, in some parts in Northern Italy and Western Austria the temperature will increase with more than 4°C.⁹⁵

Further consequences of climate change also include the likelihood of damages caused by extreme events like storms, destruction caused by forest fires, and drought. Changes in the soil on account of the changing climate will lead to increased erosion, which will further negatively impact agriculture.

Analysing the conditions for agriculture and forestry due to vulnerability⁹⁶ shows important insights into the dependency of regions on global markets and policies as well as on the fact that both sectors are highly sensitive to climate change, being directly exposed to climate change and associated with issues such as increasing temperatures or shifts in precipitation patterns as mentioned above. Generally Southern and Eastern European regions are most affected in terms of agriculture and forestry, due to high proportions in the local employment structure and the population's income. The CE area shows a mixture of regions being both prepared on the one hand and vulnerable on the other hand due to the conditions of agriculture and forestry.

Mainly regions in Northern Italy, in the South-eastern parts of Austria, in Hungary as well as in both, the Western and Eastern parts of Poland can be identified as vulnerable regions. Compared to that, regions in Germany, Western Austria, the Czech Republic, mainly Eastern parts of Slovakia and some central regions of Poland can be termed as prepared regions due to agriculture and forestry conditions.

Another issue is summer tourism; it's vulnerability to climate change is a derivate of the following indicators: tourism climate index in 1970, tourism climate index difference, quality of coastal bathing waters, quality of inland bathing waters, overnight stays, share of employment in tourism, loss of natural areas, loss of vegetated surface, share of Natura 2000 areas, sufficiency index. The new EU member states are generally more vulnerable to a significant climatic impact on summer tourism. This is mainly caused by a lower adaptive capacity in relation to the rest of analysed area. As most regions belonging to "old" Member States with higher GDP levels, they possess more funds for adaptation to climate change. These include efforts to reduce the influence of climate on tourism in the summer: maintaining climatic and thermal comfort, investments in water availability and quality as well as meeting energy demands for cooling.

The regions where climate change is expected to have the most significant repercussions on summer tourism are all located in Poland. These are the coastal regions of *Zachodniopomorskie* and *Pomorskie* as well as the mountainous region

⁹⁵ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

⁹⁶ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis, Commissioned by European Commission Directorate General for Regional Policy.

of *Malopolskie*. The bathing water on Poland's coast is of poor quality. Furthermore, climate change is considered to undermine the aesthetic value of these ecosystems. Concluding, it can be identified, that in the case of the Central European area, the regions that are best prepared for climate change are almost exclusively located in Germany, in addition to the capital city regions of Prague, Bratislava and Budapest. The region of Trento, situated in North-East Italy, is also best prepared for climate change.

Hydrologically affected inland regions are located in all of Austria (excluding the region of Vienna) and Slovenia. These are characterized by above-average sensitivity in terms of water dependency caused by intense hydropower production and a relatively high share in the water production industry.

Poland's regions clearly show deficits in adapting to climate change in comparison to other parts of CENTRAL EUROPE. This country has a low sufficiency index describing the state of progress in reaching the Habitat Directive; on the other hand it possesses an important number of Natura 2000 areas. Other regions with deficits to adapt to climate changes among the new EU members are the Czech Republic, Slovakia and Hungary. In comparison to Poland, the natural and semi-natural ecosystems in these regions respond better to climate change.

The regions that are most vulnerable to climate change at the Central European level include the northern part of Italy and the *Mecklenburg-Vorpommern* region in Germany. These regions present high vulnerability to climate change and multiple climate-related risk factors. They face above-average vulnerabilities in most issues connected to climate change, with the exception of health and heat waves.

Climate Change

- ▶ Natural hazards are expected to be more frequent than global climate change progresses
- ▶ Increase in mean and maximum temperatures. Strong increase of number of tropical nights in Slovenian, Hungarian and Slovakian regions.
- ▶ Greater frequency and intensity of extreme events such as droughts, heat waves, floods, storms, mass movements etc.
- ▶ Rise in global sea levels
- ▶ Natural hazards may potentially lead to the deepening of inner disparities and social polarization
- ▶ Countries of the former Eastern Bloc are generally more vulnerable to natural hazards due to their relatively weak adaptive capacity
- ▶ River floods are natural hazards of greatest importance in the CE area. Most vulnerable regions are located in Germany and western Poland.
- ▶ Alpine and Carpathian regions are most threatened by landslides

(deforestation and inappropriate land use contribute to enhancing the risk)

- ▶ Czech Republic, Austria and Slovakia are mainly termed as vulnerable regions due to water dependency
- ▶ Southern and Eastern European regions are most affected of climate change in terms of agriculture and forestry, due to high proportions in the local employment structure and the population's income
- ▶ New EU member states are generally more vulnerable to a significant climatic impact on summer tourism
- ▶ Reduction of greenhouse gas emissions ⇨ CE challenges: e.g. renewable energy vs. traditional energy, CO₂ emissions from transport

2.1.7 Energy

Energy is certainly one of the most significant issues the Central European region is facing nowadays and is expected to struggle with in the years to come. In recent years the region has witnessed numerous changes and transformations of the energy markets. The most important include a rapid rise of the price of oil and the cutting-off of the gas supply from Russia via Ukraine and Belarus to a large part of the EU.⁹⁷

As a result of the crisis, there is decrease in the level of investment in energy that applies to the whole of the European Union. Lower energy prices and tighter credits make investments in clean energy technologies less attractive. The CE region is strongly dependent on non-EU countries (mostly the Russian Federation) for its energy supply. Facing the fact of peak oil, in the long run fossil fuel dependency will be a major challenge for the EU economy and a timely paradigm shift in energy supply and energy demand patterns will be crucial to prevent a recession when the energy prices adapt to the supply shortage on the world markets.

Limited investment in energy infrastructure may result in an increase in system vulnerability and provoke energy insecurity. The development of a renewable energy capacity is especially crucial as it can significantly contribute to the mitigation of the effects of climate change.

In the project 'Regional Challenges in the Perspective of 2020', energy capacities have been calculated by combining a set of indicators: the share of electricity in total final energy consumption, the share of wind power in net generation capacity,

⁹⁷ Energy 2020. A strategy for competitive, sustainable and secure energy, European Commission, Brussels, 2010.

the domestic market price of electricity, the industry market price of electricity, the electricity intensity index and GDP per capita.⁹⁸

The energy susceptibility indicator for insufficient investment in new capacities shows that several regions of the former German Democratic Republic are the most vulnerable in terms of energy capacities. The energy capacities of the remaining regions of Germany, all of Hungary, the Czech Republic (excluding the Prague region), Slovenia and most of Slovakia are vulnerable. By contrast, the vast majority of regions in Poland (except for the *Mazowieckie* and *Śląskie* voivodeships) and Northern Italy (excluding *Lombardia*) are prepared in the field of energy capacity. At a national level, all of Austria's regions are well-fit in terms of energy capacities. Austria is also characterized by the highest use of renewable energy resources out of all the states of CENTRAL EUROPE⁹⁹.

The CE's present energy system is heavily dependent on imported fossil fuels, of which natural gas has the greatest share. A potential shortfall of energy supply can be caused by a sudden boost in demand by the importing country or a drop in supply in the exporting country. An energy deficit is often the result of a political/diplomatic decision.

The main indicators taken into consideration in determining the potential shortfall in fossil energy supply were: the share of oil and gas imports, the share of renewable resources in final energy demand, gas price (domestic), energy intensity and GDP per capita.

In the Central European region, the greatest susceptibility to a shortage in the supply of fossil energy is observable in Slovakia, Hungary and one region of Slovenia (*Zahodna Slovenija*). This is caused by their relatively low adaptive capacities. Poland, the Czech Republic and a single region of Italy (*Lombardia*) are relatively vulnerable to a similar shortfall. The remaining regions of the analysed area – other regions of Northern Italy, Germany and Austria – are prepared for a shortage of supply in fossil energy. This is because their supply of fossil fuel is more secure and stable. These last regions also demonstrate a higher proportion of energy use from renewable sources.

Extreme events, including natural hazards (severe weather conditions) and unexpected circumstances (such as strikes, economic and political decisions) are potentially able to create a *supply-demand* imbalance in the field of energy. Difficulties in prediction and prevention tend to enhance energy vulnerability and provoke instability. Climate change affects energy supply, transmission and distribution. An increased probability of heat waves leads to the extension of peak

⁹⁸ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis, Commissioned by the European Commission's Directorate General for Regional Policy.

⁹⁹ EUROSTAT, 2010

demand for energy used for cooling in the summer. On the other hand, extreme winter conditions result in peak energy demand for heating. Coastal areas (with a milder climate) tend to have a shorter peak energy demand period in comparison to the more continental and more extreme climate of the inlands.

The key factors that altogether constitute peak energy demand are: cooling and heating degree days, the de-rated electricity peak capacity margin, the share of electricity in total final energy consumption, the electricity intensity index and GDP per capita.

CENTRAL EUROPE is generally not the most susceptible area to peak energy demand, compared to the entire continent. This is due to its relatively mild climate. Extreme weather conditions occur sporadically. Austria, most of Germany and the coastal regions of Northern Italy are least vulnerable to peak energy demand, and thus prepared for unexpected circumstances. The rest of the analysed area is vulnerable to peak energy demand. This is caused by its lower adaptive capacity (lower GDP per capita) as well as a greater probability of extreme weather conditions (more continental climate) and less stable energy supply.

Energy efficiency

Due to rising energy prices and the increasing dependency on fossil fuels, energy supply and demand will in the future have to turn more towards renewable energy sources and focus more on efficient use of energy. Increasing prices for fossil fuels also open up opportunities for the development of renewable energy resources and the creation of new sources of income and employment.¹⁰⁰ The promotion of electricity from renewable energy sources (RES) is a high European Union (EU) priority for several reasons, including the security and diversification of energy supply, environmental protection and social and economic cohesion.¹⁰¹

Regions with a high energy intensity of their industrial processes and low energy conservation levels of their building stock are more liable to suffer negative impacts from a rise in energy prices. According to the First ESPON 2013 Synthesis Report, Germany and Austria seem to be well placed regarding possible energy price shocks, because of efficient use of energy. Territorial differences in energy consumption are related to both the energy intensity of national economies and to the welfare level of countries. More developed countries generally have lower energy intensity per unit of GDP produced, but higher energy consumption per capita. Higher energy prices can also open development opportunities for regions able to

¹⁰⁰ ESPON (2010): Applied Research 2013/1/5. ReRisk. Regions at Risk of Energy Poverty

¹⁰¹ http://europa.eu/legislation_summaries/energy/renewable_energy/l27035_en.htm

capitalise on their potential for renewable energy production and/or to nurture innovative energy related industries.¹⁰²

In 2009, nearly 40% of final energy consumption in the EU27 was in households and services.¹⁰³ By improving the energy efficiency of new and existing buildings, energy consumption could be significantly reduced. This would enhance security of energy supply and reduce emissions of greenhouse gases and other pollutants. In housing, considerable energy savings can be achieved through the adoption of more efficient heating and water heating systems, insulation and electrical appliances.¹⁰⁴

A substantial part of energy used in cities is related to buildings, so increasing their energy efficiency is particularly important. Since there tend to be many public buildings in cities, these should be a specific focus of attention.¹⁰⁵ Publicly owned or occupied buildings represent about 12 % by area of the EU building stock.¹⁰⁶

Transport is the second largest sector when it comes to final energy consumption (33 % of total final energy consumption in the EU27 in 2009). It is the fastest growing sector in terms of energy use, with the strongest reliance on fossil fuel. Improving the efficiency of the transport sector should include the introduction of advanced traffic management systems in all modes; infrastructure investment and the creation of a Single European Transport Area to promote multimodal transport; smart pricing; and efficiency standards for all vehicles across all modes as well as other measures to promote vehicle innovation.¹⁰⁷

¹⁰² ESPON (2010): First ESPON 2013 Synthesis Report. New Evidence on Smart, Sustainable and Inclusive Territories.

¹⁰³ Eurostat, Energy, transport and environment indicators, 2011 edition.

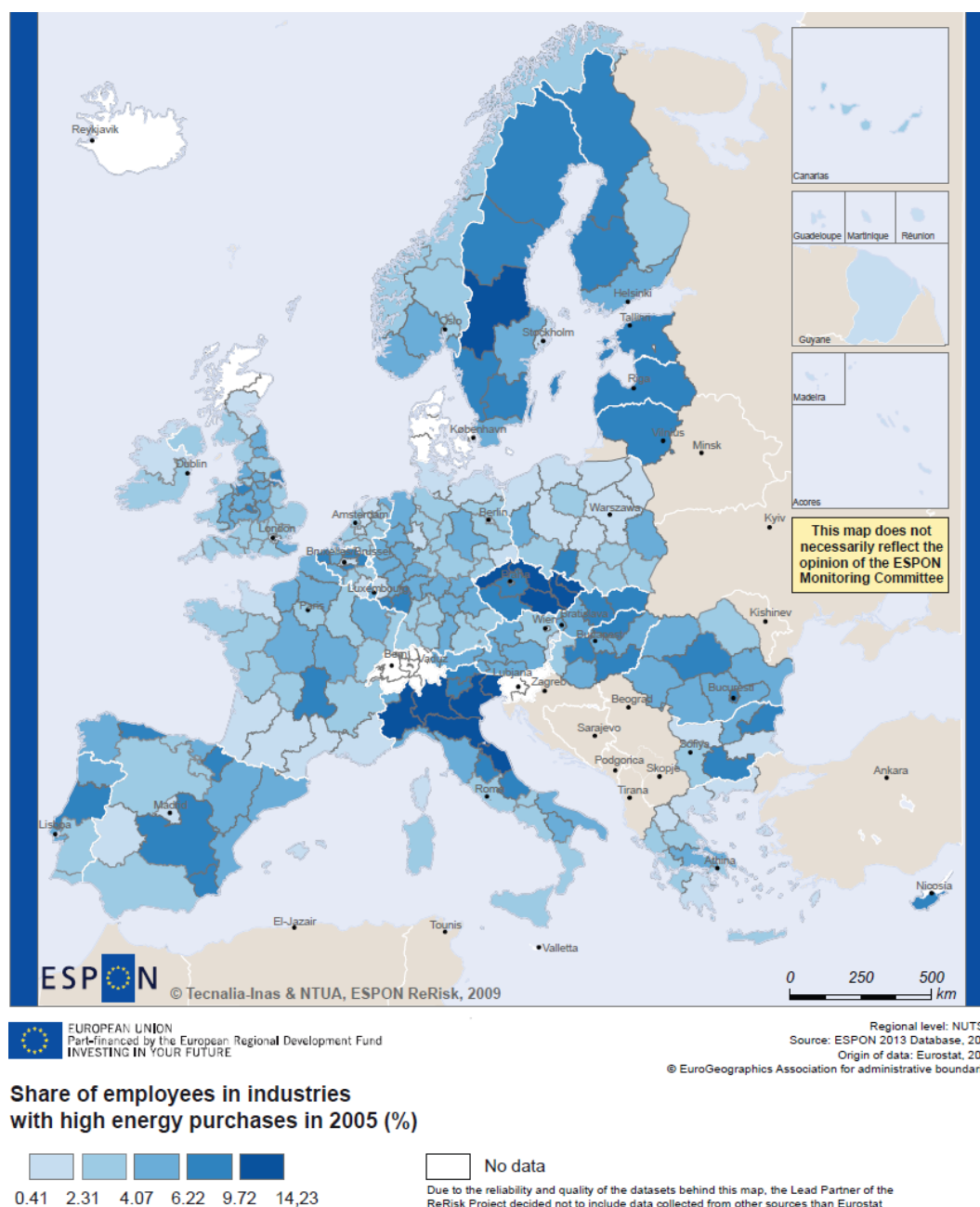
¹⁰⁴ DG Energy and Transport (2009): Study on the Energy Savings Potentials in EU Member States, Candidate Countries and EEA Countries, Final Report for the European Commission.

¹⁰⁵ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

¹⁰⁶ Ecorys, Ecofys and BioIntelligence (2010): Study to Support the Impact Assessment for the EU Energy Saving Action Plan. The estimate is based on the assumption of 5 m² of public buildings per citizen, translating into a total floor area of public buildings (excluding social housing) in the EU of 2.5 billion m². The total floor area is 21 billion m².

¹⁰⁷ COM(2011) 109: Energy Efficiency Plan 2011

Map 27: Proportion of employment in industries with high energy purchases, 2005



Source: ESPON (2010): First ESPON 2013 Synthesis Report. New Evidence on Smart, Sustainable and Inclusive Territories.

Energy and resource efficiency in the industry sector also plays an important role when mitigating the expected negative impact of rising energy prices, as well as reducing CO₂ emissions and combatting the climate change. Map 27 shows the share of a region's total labour force which is employed in industries demanding a lot of energy. Thus it gives a picture of regional dependence on industries with high energy spending. The regions in CENTRAL EUROPE with the most unfavourable

position in terms of economic vulnerability (> 10% of employment in industries with high energy spending) are located in the Czech Republic and in Northern Italy.¹⁰⁸

Data dates back to 2005 and due to the economic crisis, the decline in production has since led to a decrease in energy consumption in the industry sector. However, existing hardware remains and offers potentials to reduce energy consumption in production.

Primary production of renewable energy

Various policies supporting the development of renewable energies in Europe have led to an increase in primary production of renewable energy in the EU27 and – at an even higher level – in the CE-countries (Table 8). Germany, Slovakia, Hungary and the Czech Republic showed the highest increase in primary production of renewable energy in CENTRAL EUROPE between the years 2000 and 2010. Austria and Slovenia showed the lowest growth rates in this period, but had a comparatively good basis of renewable energy production in 2000. Overall renewable energy production increased +120 % in CE between 2000 and 2010.

The lion's share of renewable energy production in 2010 came from biomass and renewable wastes (68 % in CE), hydropower was the other main contributor to the renewable energy mix (15 % in CE).

Solar energy and Wind power had the highest growth rates compared to the other sources (Solar Energy: +1163 % in Germany, + 2383 % in Italy; Wind power: +2850 % in Austria, +1535 % in Italy) in the period of 2000 to 2010. Solar energy production grew +951 % and wind power production +416 % in the CENTRAL EUROPE area, while Hydropower showed the smallest increase with only + 4 % (not depicted).

Table 8: Primary production of renewable energy in CE-Countries (tonnes of oil equivalent, 2000 and 2010) and shares of energy sources

	Primary production (1.000 toe)			Share of total, 2010 (%)				
	2000	2010	Increase (%)	Solar energy	Biomass & waste	Geothermal energy	Hydro power	Wind power
EU27	96.599	166.601	+ 72%	2%	68%	4%	19%	8%
CE	32.562	71.784	+ 120%	3%	68%	8%	15%	6%
CZ	1.339	2.901	+ 117%	2%	89%	0%	8%	1%
DE	9.094	32.746	+ 260%	4%	79%	2%	5%	10%
IT	9.597	16.329	+ 70%	2%	37%	29%	27%	5%

¹⁰⁸ ESPON (2010): First ESPON 2013 Synthesis Report. New Evidence on Smart, Sustainable and Inclusive Territories.

HU	830	1.922	+ 132%	0%	91%	5%	1%	2%
AT	6.609	8.599	+ 30%	2%	57%	0%	38%	2%
PL	3.808	6.848	+ 80%	0%	94%	0%	4%	2%
SI	788	1.041	+ 32%	1%	59%	3%	37%	0%
SK	497	1.398	+ 181%	0%	67%	1%	32%	0%

Source: OIR, based on EUROSTAT, 2012

Gross inland energy consumption

Gross inland energy consumption¹⁰⁹ in CENTRAL EUROPE is relatively diverse with regard to the sources of energy. Poland and the Czech Republic mainly base their energy consumption on solid fuels (54% and 40% in the year 2010, see Figure 8), of which coal is the most common. Italy, Austria, Slovenia and Germany show high shares of petroleum consumption (35% to 40%). Additionally, Natural gas consumption is relatively high in Italy (39%) and Hungary (38%).

It is understood that CO₂ emissions must be kept at the lowest possible level to ease the environmental burden and mitigate the scale of environmental contamination. In the year 2008, the Czech Republic was identified as the country with the highest level of CO₂ emissions per capita (over 11 cubic tons per person a year). Such robust production of carbon dioxide could be explained by a significant contribution of coal as an energy resource.

On the opposite side of the spectrum, Hungary was the country that, in 2008, registered the least CO₂ gas emissions per capita (only 5,4 cubic tons per person a year) in the CE region. This country is characterized by a relatively low use of solid fuels. Moreover, nuclear energy plays a significant role in Hungary's energy production.

Austria, Italy and Poland are the only countries of the CE region with no nuclear power stations. The only non-EU country of the region, Ukraine, is in possession of 15 power stations of this type, but none of them is situated in the five regions under analysis. The highest proportion of nuclear energy use in total inland consumption in 2010 was to be found in Slovakia and Slovenia (22% and 20% respectively). Hungary (16%) comes in third, still exceeding the average EU-27 exploitation of nuclear energy (13%).

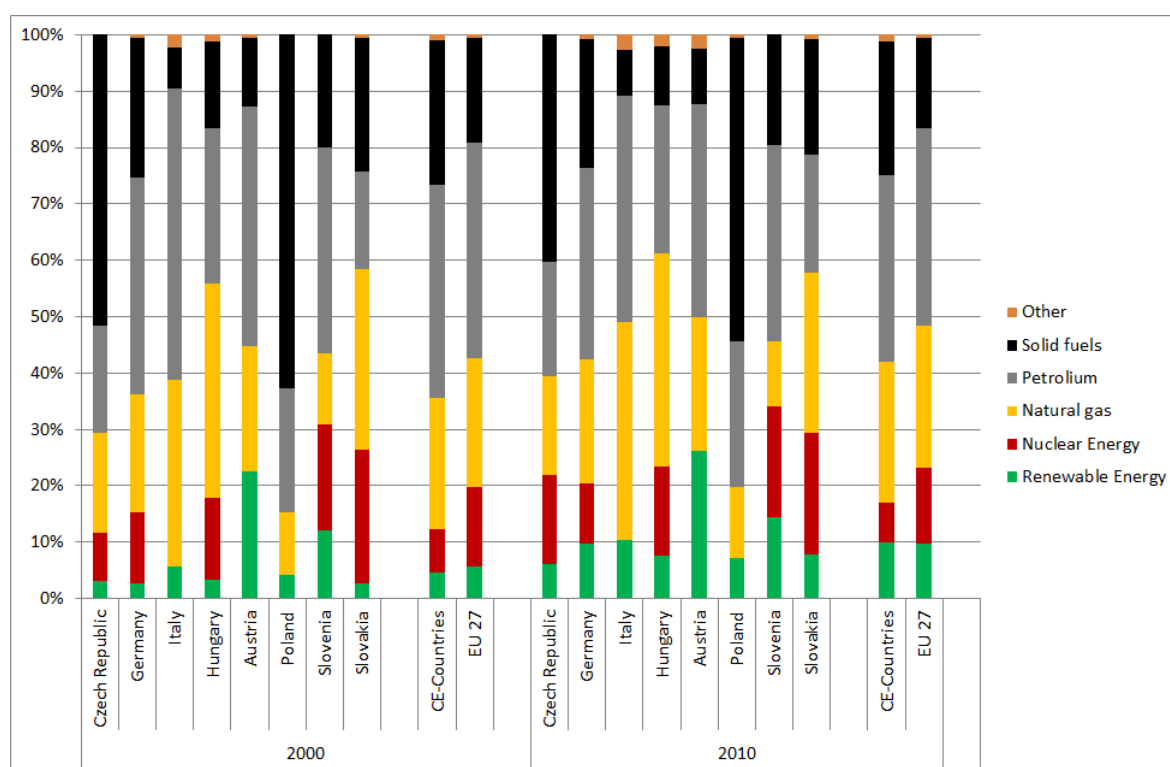
The use of renewable energy was exceptionally high in Austria (26%), where it was almost three times greater than the EU-27 average (10%). Also Slovenia shows above-average shares of renewable energy use (14%). The use of renewable energy

¹⁰⁹ Gross inland consumption is defined as primary production plus imports, recovered products and stock change, less exports and fuel supply to maritime bunkers (for seagoing ships of all flags); it therefore reflects the energy necessary to satisfy inland consumption within the limits of national territory.

resources was still low in new EU countries like Poland and Slovakia (7% and 8%). The Czech Republic was the country that saw the lowest use of environmentally friendly energy, which only represents 6% of the national total.¹¹⁰

Gross inland energy consumption in CENTRAL EUROPE in contrast to EU-27 shows a lower share of nuclear energy which goes at the expense of a higher share of solid fuels. The share of renewable energy sources lies at 10% in the CE-Area as well as in the EU-27 countries. Compared to the year 2000, the share of renewable energy doubled in the CE-area, but still remains at a rather low level.

Figure 8: Gross inland energy consumption by source, 2000 and 2010



Source: OIR, based on EUROSTAT, 2012

Rise in energy consumption and the role of renewable energy

It is expected that, by 2030, per capita energy consumption will increase by 9%.¹¹¹ Combined Member States expect to more than double their total renewable energy consumption from 103 Mtoe in 2005 to 217 Mtoe in 2020 (gross final energy consumption). The electricity sector is expected to account for 45% of the increase, heating 37% and transport 18%.¹¹² To achieve the 20 % target¹¹³ (20 % share of

¹¹⁰ EUROSTAT, 2010; no data for Ukraine.

¹¹¹ ESPON (2010): First ESPON 2013 Synthesis Report. New Evidence on Smart, Sustainable and Inclusive Territories.

¹¹² COM(2011) 31: Renewable Energy: Progressing towards the 2020 target.

¹¹³ http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/trans/92802.pdf

renewable energy in overall energy consumption by 2020), and in light of the decision of Germany to phase out of nuclear power until 2022, production of renewable energy needs to be increased substantially as well as the national and transnational distribution grids need to be expanded.

In electricity, biomass, wind power and solar energy are expected to carry most of the projected increase in renewable energy consumption in CENTRAL EUROPE. In heating and cooling, biomass will remain the dominant technology, with 50% of growth up to 2020. In transport, first generation biofuels will be the predominant energy source over the period to 2020. Second generation biofuels and electric vehicles are expected to make only a small contribution by 2020. This will generate demand for many related industries, such as the biomass pellet industry, biomass boiler technology, co-firing power plant technology, biofuels refining, wind turbine manufacturers, associated support industries, photovoltaic industry etc.¹¹⁴

Map 28 identifies those regions in Europe, which have the highest potential for producing electricity from on-shore wind power. In CENTRAL EUROPE, areas with high wind power potential can be found in northern Germany and Poland as well as – to a lesser degree – in some continental regions of the Czech Republic, Slovakia, Austria and Hungary (Map 28). Conditions can change markedly within a short distance and the potential for wind power can sometimes vary substantially within NUTS 2 regions. At the coast of the Baltic Sea, offshore wind farms additionally to the on-shore facilities show great potential to help achieving the energy goals of the EU.¹¹⁵ While land-based wind energy will remain dominant in the immediate future, installations at sea will become increasingly important.¹¹⁶

One significant problem of wind power is the variability of wind which means that wind-generated energy is best seen as part of an overall energy portfolio where connected networks can shift between sources in response to supply and demand.¹¹⁷

Map 29 shows the regional potential for electricity production from solar panels. Regions with greatest potential are in the south and east of Europe. The core area of Europe is scoring low, while the main potential lies on the periphery. Southern regions of the EU generally have much greater access to solar power than those in the North because of the many more sunny days but also because of their more southerly position which increases solar irradiation. Regions with the highest

¹¹⁴ COM(2011) 31: Renewable Energy: Progressing towards the 2020 target.

¹¹⁵ http://www.ewea.org/fileadmin/ewea_documents/images/publications/offshore_report/ewea-offshore_report.pdf

¹¹⁶ EEA (2009): Europe's onshore and offshore wind energy potential. An assessment of environmental and economic constraints. EEA Technical report No 6/2009.

¹¹⁷ ESPON (2010): First ESPON 2013 Synthesis Report. New Evidence on Smart, Sustainable and Inclusive Territories

potential for the generation of solar power are mostly located in the Mediterranean, though the potential is also relatively high in Northern Italy.¹¹⁸

Biomass and renewable wastes currently account for around 69 % of all renewable energy used in the EU27 as well as in the CE-area. Biomass currently meets 7% of the EU27's energy needs (118 million tonnes of oil equivalent (toe)). The highest shares of biomass consumption related to total renewable energy consumption in the CE-area can be found in Poland (94%), Hungary (92%) and the Czech Republic (88 %). Italy as the only country in CENRAL EUROPE displays a share under 50 % of biomass consumption related to total renewable energy consumption. In Austria, 16 % of the total energy consumption are covered by biomass. The rest of the CE-countries display values below 10 % (Table 9).

¹¹⁸ ESPON (2010): First ESPON 2013 Synthesis Report. New Evidence on Smart, Sustainable and Inclusive Territories

Table 9: Gross inland energy consumption of Biomass compared to total, 2010

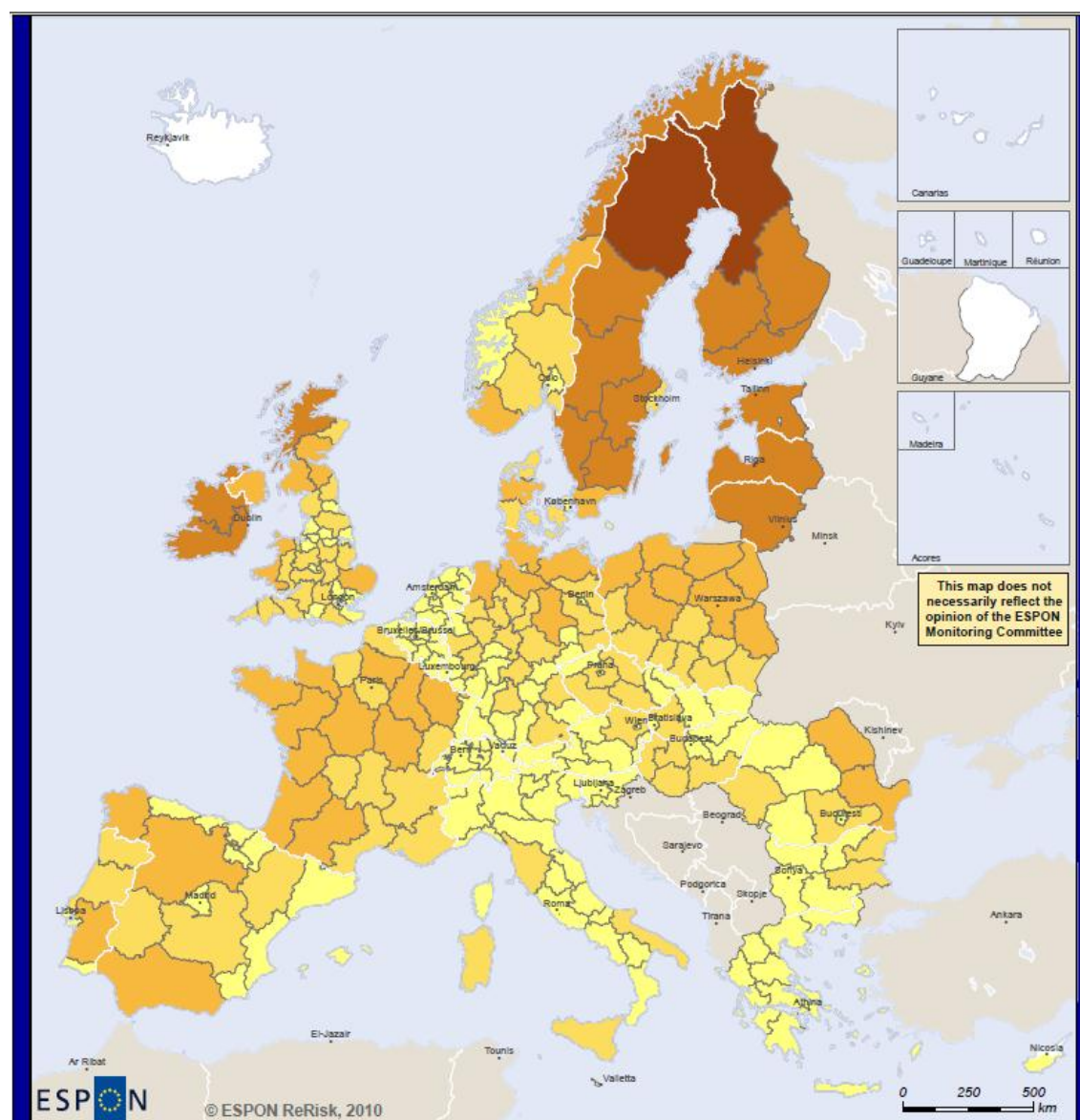
	All Products	Renewable energies	Biomass	% of RES	% of total
EU27	1.759.015	172.142	118.220	69%	7%
CE	744.858	74.160	51.459	69%	7%
CZ	45.855	2.779	2.449	88%	5%
DE	336.095	32.553	25.567	79%	8%
IT	175.515	18.033	7.794	43%	4%
HU	25.978	1.989	1.823	92%	7%
AT	34.618	9.071	5.385	59%	16%
PL	101.704	7.279	6.869	94%	7%
SI	7.423	1.070	647	60%	9%
SK	17.670	1.386	925	67%	5%

Source: OIR, based on EUROSTAT

The EEA Technical report No 12/2007 on environmentally compatible bioenergy potential from agriculture confirms that there is a large potential for bioenergy production from agricultural biomass in Europe. However, developing new bioenergy crops needs to take account of the environmental risks associated with large-scale bioenergy production. Energy crops are expected to use more of Europe's farmlands over the years to come and environmental limits will be needed to avoid damaging impacts on the environment overall.¹¹⁹

¹¹⁹ EEA (2007): Estimating the environmentally compatible bioenergy potential from agriculture. EEA Technical report No 12/2007

Map 28: Wind Power Potential, 2009



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

Regional level: NUTS II
Source: ESPON ReRisk, 2010
Origin of data: Own elaboration based on European Topic Centre
on Air and Climate Change (ETC/ACC) data on wind intensity, 2009
© EuroGeographics Association for administrative boundaries

Wind Power Potential

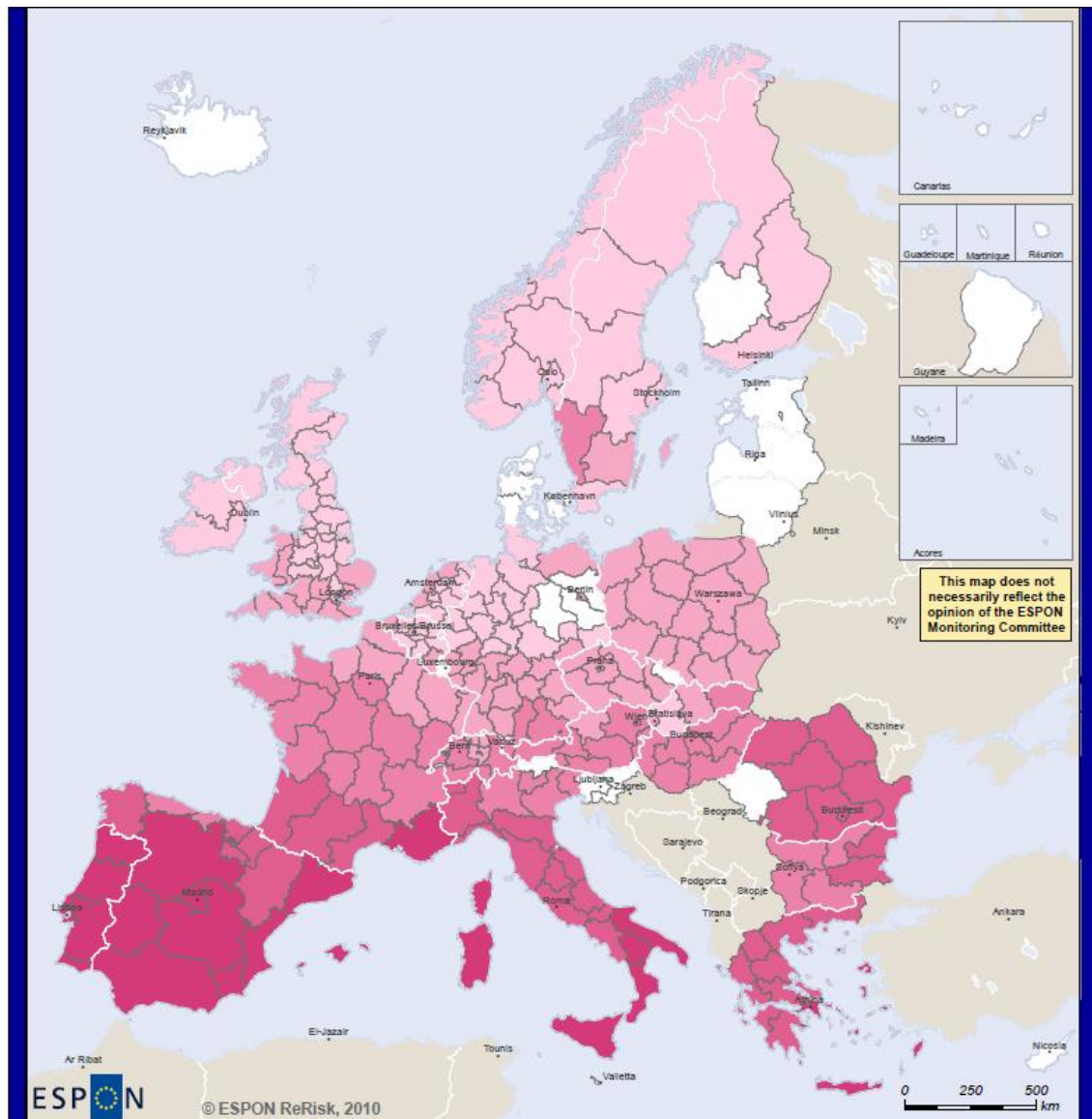
(m/s * km²)

	0 - 79180
	79.181 - 204.546
	204.547 - 487.852
	487.853 - 1.031.076
	1.031.077 - 1.795.408
	No Data

Source:

<http://www.espon.eu/export/sites/default/Documents/Publications/MapsOfTheMonth/MapJanuary2011/Wind-Power-Potential.pdf>

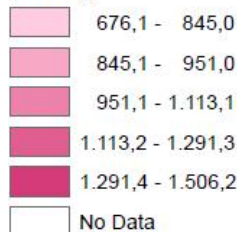
Map 29: Photovoltaic (PV) Potential in the EU Regions, 2010



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

PV Potential

PV output for a 1 kWp system mounted at optimum angle
(kWh/y)



Source:

<http://www.espon.eu/export/sites/default/Documents/Publications/MapsOfTheMonth/MapJanuary2011/PV-Potential.pdf>

Regional level: NUTS II
Source: ESPON ReRisk, 2010
Origin of data: Own elaboration based on data facilitated by
Joint Research Centre, Renewable Energies Unit
© EuroGeographics Association for administrative boundaries

Energy distribution

The energy sector is dominated by a small number of big producers. The continued centralisation of the energy system has provoked both technical and economic vulnerabilities. On one hand, Europe is vulnerable to large blackouts caused by failures in the transmission network and, on the other hand, national governments have acquired important debts resulting from the large capital investments necessary for the construction, operation and maintenance of nuclear energy infrastructure.¹²⁰

Given the different potential for exploiting different sources, the development of intelligent energy distribution networks is central for sharing the power generated in different places.¹²¹

Some of the regions in CENTRAL EUROPE may follow the idea of “island solutions” (e.g. Austria), promoting energy autarchy and advocating an energy mix (electricity and heat), which allows for such an independent solution. In the European scheme of energy policy, such an approach will still call for trans-European energy solutions, as not all regions will be sufficiently equipped with such a balanced mix of energy sources.¹²²

While focussing on region-specific strengths, the development of effective pan-European energy grids is essential to boost the use of renewable energies. For example the large-scale development of offshore wind power would imply that production would need to feed in to the grid via entry points on the coast in northern Europe. The capacity of the existing grid to transmit the power from the new wind farms to the consumers may be insufficient. In some Member States, especially in Germany, a bottleneck exists already or is expected in case of significant wind capacity expansion in the North Sea.¹²³ Hence, transnational cooperation is vital to successfully implementing and securing energy supply.

Future trans-European grids must provide all consumers with a highly reliable, cost-effective power supply, fully exploiting the use of both large centralised generators and smaller distributed power sources throughout Europe. Other challenges in the electricity sector are: ¹²⁴

- ▶ flexible demand for energy, microgeneration opportunities

¹²⁰ ESPON (2010): Applied Research 2013/1/5. ReRisk. Regions at Risk of Energy Poverty

¹²¹ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

¹²² OIR et al. (2012): Infrastructure for Renewable Energies: A Factor of Local and Regional Development.

¹²³ EEA (2009): Europe's onshore and offshore wind energy potential. An assessment of environmental and economic constraints. EEA Technical report No 6/2009.

¹²⁴ See: European Technology Platform (2006): Smart Grids. Vision and Strategy for Europe's Electricity Networks of the Future.

- ▶ Electricity networks renewal and innovation, increasing the degree of automation for better quality of service; using system wide remote control
- ▶ Security of supply: limited primary resources of traditional energy sources, flexible storage; need for higher reliability and quality; increase network and generation capacity;
- ▶ Liberalised markets: responding to the requirements and opportunities of liberalisation; high demand flexibility and controlled price volatility, flexible and predictable tariffs; liquid markets for trading of energy and grid services;
- ▶ Interoperability of European electricity networks
- ▶ supporting the implementation of the internal market; efficient management of cross border and transit network congestion; improving the long-distance transport and integration of renewable energy sources; strengthening European security of supply through enhanced transfer capabilities;
- ▶ Distributed generation (DG) and renewable energy sources (RES): local energy management, losses and emissions reduction, integration within power networks;
- ▶ Central generation: renewal of the existing power-plants, development of efficiency improvements, increased flexibility towards the system services, integration with RES and DG;
- ▶ Demand response and demand side management (DSM): developing strategies for local demand modulation and load control by electronic metering and automatic meter management systems;

Energy

- ▶ The CE region is strongly dependent on non-EU countries for its energy supply.
- ▶ Due to rising energy prices and the increasing dependency on fossil fuels, energy supply and demand will in the future have to turn more towards renewable energy sources and focus more on efficient use of energy.
- ▶ The development of renewable energy resources opens up opportunities for the creation of new sources of income and employment and helps securing the energy supply, environmental protection and social and economic cohesion.
- ▶ Energy efficiency in households and services, transport and the industry sector is an important goal to reduce energy consumption as well as emissions of greenhouse gases and other pollutants.
- ▶ Primary production of renewable energy increased +120 % between 2000 and 2010 in CENTRAL EUROPE, with Biomass and renewable wastes being the

most important sources and wind and solar power being the fastest growing sectors.

- ▶ Gross inland consumption of renewable energy is still at a low level in CENTRAL EUROPE (10 %), displaying the dependence on fossil energy sources.
- ▶ Austria (26%) and Slovenia (14%) show above average shares of renewable energy use, the Czech Republic, Poland and Slovakia (6–8 %) are at the other side of the spectrum.
- ▶ It is expected that, by 2030, per capita energy consumption will increase by 9%. In light of the decision of Germany to phase out of nuclear power until 2022, production of renewable energy needs to be increased substantially as well as the national and transnational distribution grids need to be expanded.
- ▶ In electricity, biomass, wind power and solar energy are expected to carry most of the projected increase in renewable energy consumption in CENTRAL EUROPE. In heating and cooling, biomass will remain the dominant technology, with 50% of growth up to 2020.
- ▶ In CENTRAL EUROPE, areas with high wind power potential can be found in northern Germany and Poland as well as – to a lesser degree – in some continental regions of the Czech Republic, Slovakia, Austria and Hungary. At the coast of the Baltic Sea, offshore wind farms additionally to the on-shore facilities show great potential to help achieving the energy goals of the EU.
- ▶ Regions with greatest potential for electricity production from solar panels are in the south and east of Europe, the potential is also relatively high in Northern Italy.
- ▶ There is a large potential for bioenergy production from agricultural biomass in Europe. However, developing new bioenergy crops needs to take account of the environmental risks associated with large-scale bioenergy production.
- ▶ Given the different potential for exploiting different sources, the development of intelligent energy distribution networks is central for sharing the power generated in different places. While focussing on region-specific strengths, the development of effective pan- and trans-European energy grids is essential to boost the use of renewable energies.

2.1.8 Environment

The quality of the environment is mostly conditioned by human activities. Improving quality requires both limiting the negative environmental effects of the activities

concerned and preserving natural assets.¹²⁵ Both targets may be achieved through normative requirements as well as investments in environmental infrastructure. The CENTRAL EUROPE area boasts a wide array of valuable areas that are both worthy and in need of protection. The region is very diverse in terms of landscape and natural life. Going from north to south, the main environmentally valuable regions are:

- ▶ the Baltic sea coastline (Poland and Germany)
- ▶ the post-glacial lake district (Poland and Germany)
- ▶ the Carpathian region (Poland, Slovakia and Ukraine)
- ▶ the Sudeten region (Poland, Germany and Czech Republic)
- ▶ the Alpine region (Austria, Italy, Germany and Slovenia)
- ▶ the plateaus of Hungary
- ▶ the Adriatic sea coastline (Italy and Slovenia)
- ▶ the Danube Basin (Germany, Austria, Slovakia, Hungary and Ukraine as well as the areas of South East Europe: Croatia, Serbia, Romania, Bulgaria and Republic of Moldova)

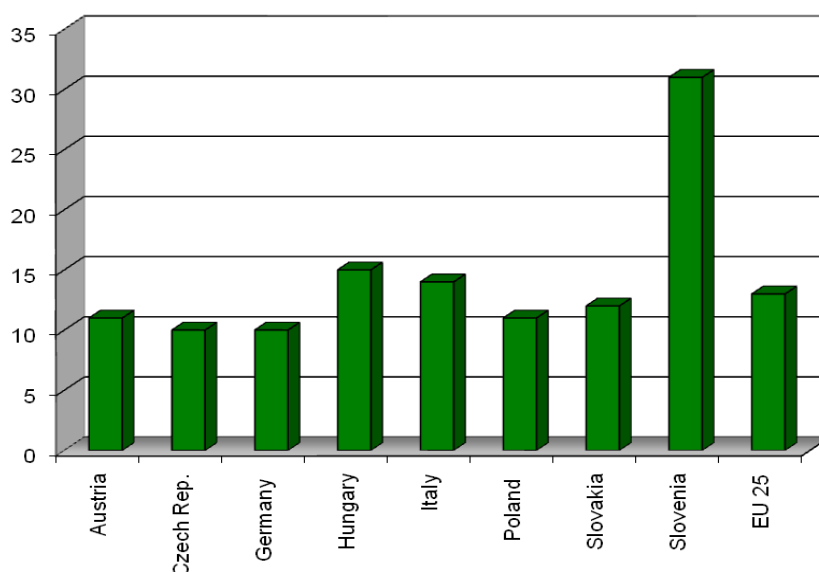
The mean proportion of protected areas in the 27 countries of the EU in the year 2010 was 13%. Countries of the Central European region that have a lower overall contribution of areas protected by law included: Austria (11%), the Czech Republic and Germany (10% for both), Poland (11%) and Slovakia (12%).

On the other hand, there were states with a share of protected areas above the EU-27 average: Italy (14%), Hungary (15%) and Slovenia, whose contribution of protected areas (31%) eclipses other European counties.

The natural resources are extremely diversified in Central Europe and include large areas of forested and agricultural land, mountainous areas, watercourses, coasts with specific landscapes, the sea, plains, lakes and urbanised areas. The diversity of the natural heritage is one of the biggest assets of the region with a view to sustainable development. Biodiversity and natural heritage, in general, are subject to a variety of adverse impacts from industrialisation, intensive agriculture, traffic and urbanisation and intensive tourism.

¹²⁵ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

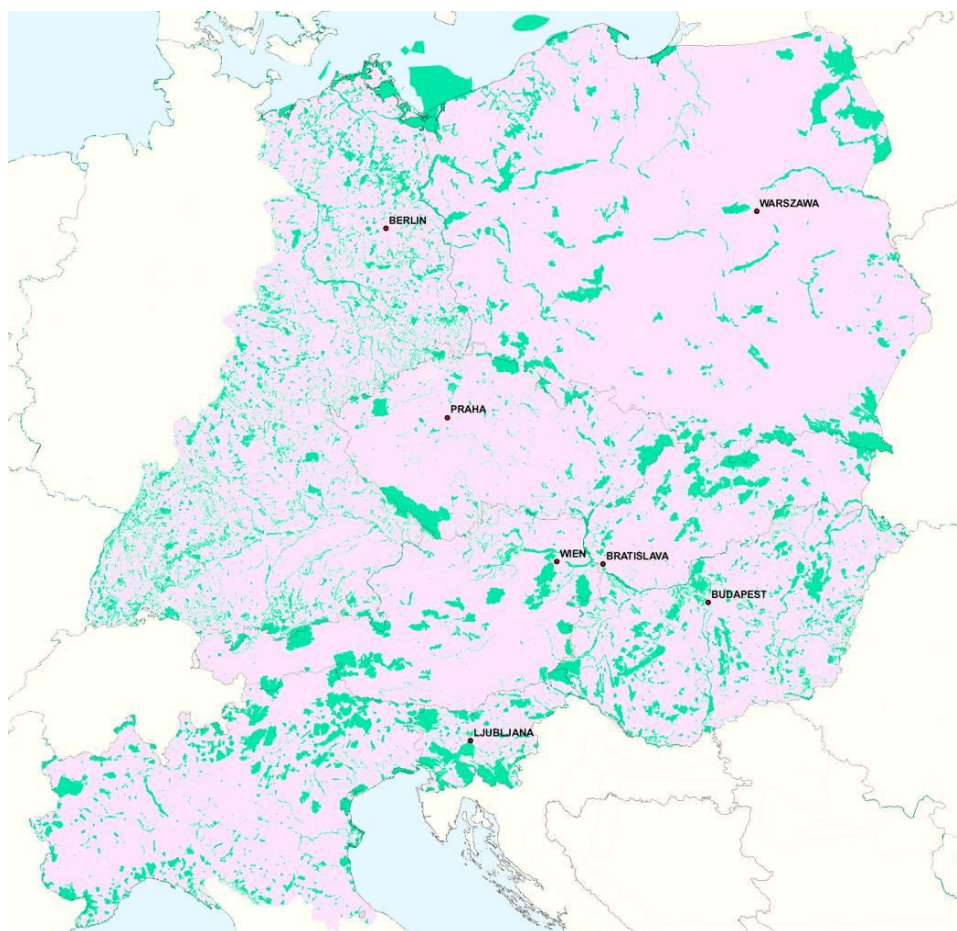
Figure 9: Percentage of terrestrial areas protected by law, 2010



Source: Eurostat

The Natura 2000 programme was set up to protect the most seriously threatened habitats and species in Europe. It consists of two parts: the Habitats Directive and the Birds Directive. These two constitute the Natura 2000 network of protected areas in Europe. The program is intended to contribute to the preservation and protection of the most valuable natural and semi-natural ecosystems for future generations. The map illustrates Natura 2000 areas under the Habitats directive (SCIs). These are mainly national and landscape parks with unique habitats and species, as well as green corridors (mostly along river valleys), which are especially valuable. By analyzing the map, it is readily observable that, in the case of Germany, the existent Natura 2000 areas are relatively insignificant in size comparing to other CE regions, but the overall density of protected areas is the highest and they are often connected through green corridors. Such a system supports greater biodiversity as migration of species is facilitated by the green bridges. Other parts of CENTRAL EUROPE tend to possess greater areas protected by Natura 2000; at the same time, however, they are more isolated, which contributes to limited ecosystem development and may provoke inbreeding and thus reduce genetic diversity.

Map 30: Natura 2000 areas under the Habitats directive (SCIs)



Source: ec.europa.eu

Areas protected by law (mainly national and natural landscape parks) are crucial to maintaining the natural heritage and biodiversity of a region.

The most susceptible natural and semi-natural ecosystems of the Central European area are to be found among the new EU Member States. When analysing the vulnerability of regions by considering the difference of summer to annual precipitation ratio, change in vegetation days, 30-year mean temperature difference, loss of natural area, loss of vegetated surface, proportion of Natura 2000 areas and the sufficiency index¹²⁶, peak vulnerability is registered in five regions of Poland (*Zachodniopomorskie, Lubuskie, Warmińsko-Mazurskie, Podlaskie, Podkarpackie*) and three regions of Slovakia (*Bratislava region, Stredné Slovensko, Východné Slovensko*). This is mainly caused by a low adaptive capacity of these areas in relation to other parts of CENTRAL EUROPE (low sufficiency index). Among the new EU countries, Hungary's natural and semi-natural ecosystems are least vulnerable to climate change.

¹²⁶ Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis, Commissioned by European Commission Directorate General for Regional Policy.

Environmental situation

The traditional focus of funding laid on environmental infrastructure, ranging from clean drinking water supply, waste management and waste water treatment; other points of interest are renewable energy, green transportation and economy as well as a greener governance of the European Union's Cohesion Policy¹²⁷.

A result of the funding of environmental infrastructure (2000–2006: 27,4 billion from ERDF and Cohesion Fund), is the improvement of infrastructure within the EU. “The total additional population connected to wastewater collection and treatment of an adequate standard is estimated at least 40 million (...); at the same time [2000–2006], at least 20 million people were connected to a clean supply of drinking water.”¹²⁸ The environmental situation in the CENTRAL EUROPE area has also improved in terms of Greenhouse Gas Emissions, which have decreased by 6% between 2000 and 2010 (2010: 2,2 billion tonnes CO₂ equivalent in the CE-countries [including the whole of Germany and Italy]). However, between 2009 and 2010, Green House Gas emissions were on the rise again in the EU27 as well as in CE.¹²⁹ Additionally, insufficient supply and disposal infrastructure with regard to water and waste still remains a problem in Central Europe.

Amount of municipal waste/waste management & recycling

One of the human impacts on the natural environment can be assessed by analysing a region's generation of municipal waste, estimated in kilograms per capita. This factor is strongly linked with the level of socio-economic development. The higher the economic standing of the area, the greater the consumption of goods becomes and finally, the amount of waste being produced increases. With increasing production of waste, the overall pressure on the environment becomes more significant.

Here again, the former “Iron Curtain” line is easy to distinguish. In 2007, most of the regions of the former GDR had an average waste production of less than 400 kg per capita, whereas the rest of Germany's regions exceeded that level.

The greatest municipal waste generation in the CE region (over 600 kg per capita) was to be observed in the rich regions of Austria and Italy, reaching its maximum in *Emilia-Romagna* (where it exceeded 690 kg per capita).

By contrast, the lowest significance of municipal waste generation in 2007 was noted in less economically developed regions located the new EU Member States.

¹²⁷ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

¹²⁸ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

¹²⁹ Source: European Environment Agency (EEA)

Values below 300 kg per capita were found in eastern parts of Poland and Slovakia, as well as a major part of the Czech Republic.

Hungary and Slovenia were the only new EU members with municipal waste generation above 400 kg per capita. This fact may be due to the higher relative degree of socio-economic development of these countries compared to other post-communist states of the Central European region.

To manage the amount of waste within the whole Union, the concept of the Union's waste policy is based on the so-called waste hierarchy. "This means that, ideally, waste generation should be prevented or reduced, and that which is generated should be recovered by means of re-use, recycling and other recovery operations, thus reducing disposal operations".¹³⁰ Different regulations are setting the frame for waste and waste management, such as the Waste Framework Directive, the Thematic Strategy on the prevention and recycling of waste (reviewed in 2011)¹³¹ and the Landfill Directive.

Map 31 shows the grouping of the former Union of 25¹³² countries according to their level of incineration and waste recovery. Three different waste generation profiles were defined:

- ▶ Group 1 with an incineration and material recovery of more than 25% of municipal waste generated (no country of CE)
- ▶ Group 2 with an incineration of less than 25% and material recovery of more than 25% of municipal waste (in CE: Germany, Austria, Italy and Hungary)¹³³
- ▶ Group 3 with an incineration and material recovery of less than 25% of municipal waste generated (in CE: Poland, the Czech Republic, Slovakia and Slovenia).¹³⁴

Figure 10 illustrates the waste volume by the different types of treatment (disposal, incineration and recovery – national data only). Especially in Germany, Poland, the Czech Republic, Italy and Austria recovery is the main waste treatment (>60%), whereas Slovenia, Slovakia, Hungary and Poland show values below the 60% line. These countries show increasing percentages in waste disposal.

¹³⁰ EEA , 2007: The road from landfilling to recycling: common destination, different routes.

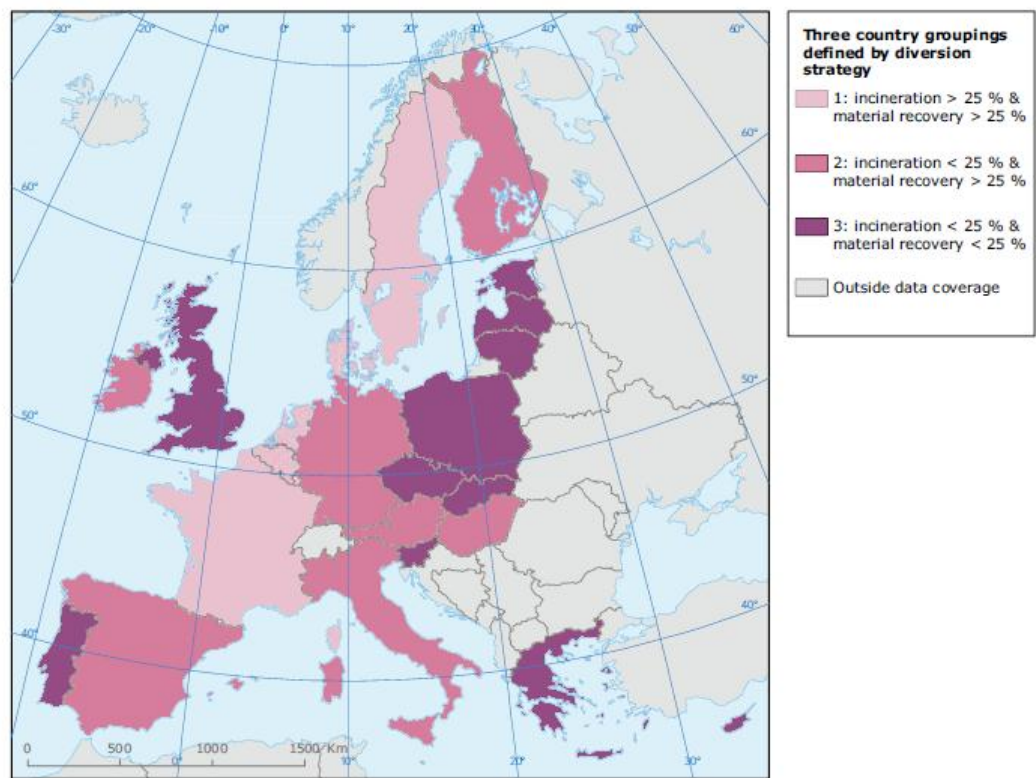
¹³¹ DG Environemnt 2012: online

¹³² Romania and Bulgaria were not included into the data/map

¹³³ National data only.

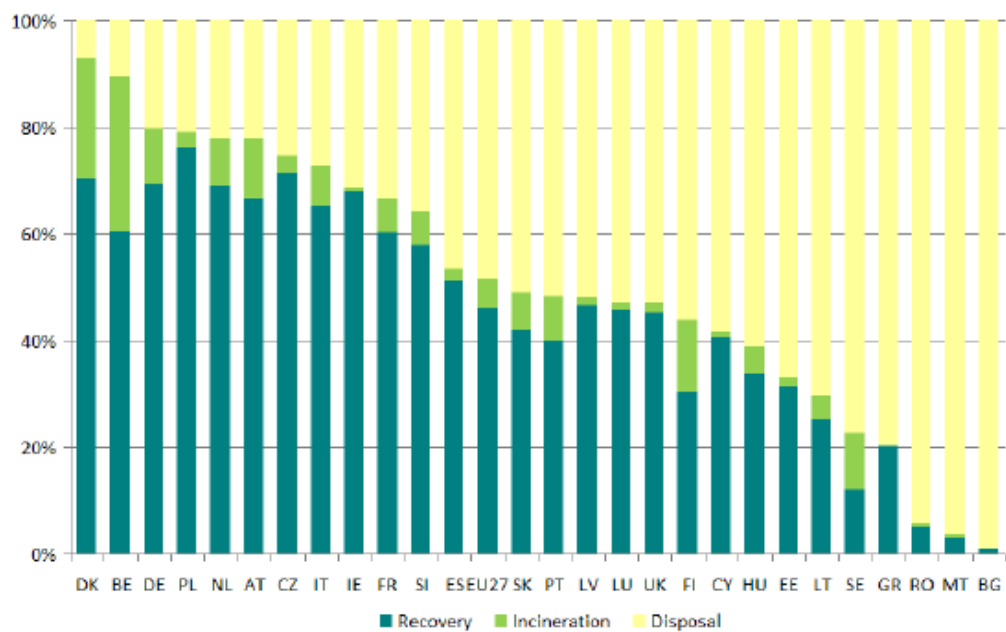
¹³⁴ EEA , 2007: The road from landfilling to recycling: common destination, different routes.

Map 31: Grouping of countries (level of incineration and material recovery)



Source: EEA, 2007: The road from landfilling to recycling: common destination, different routes.

Figure 10: Types of Waste Treatment



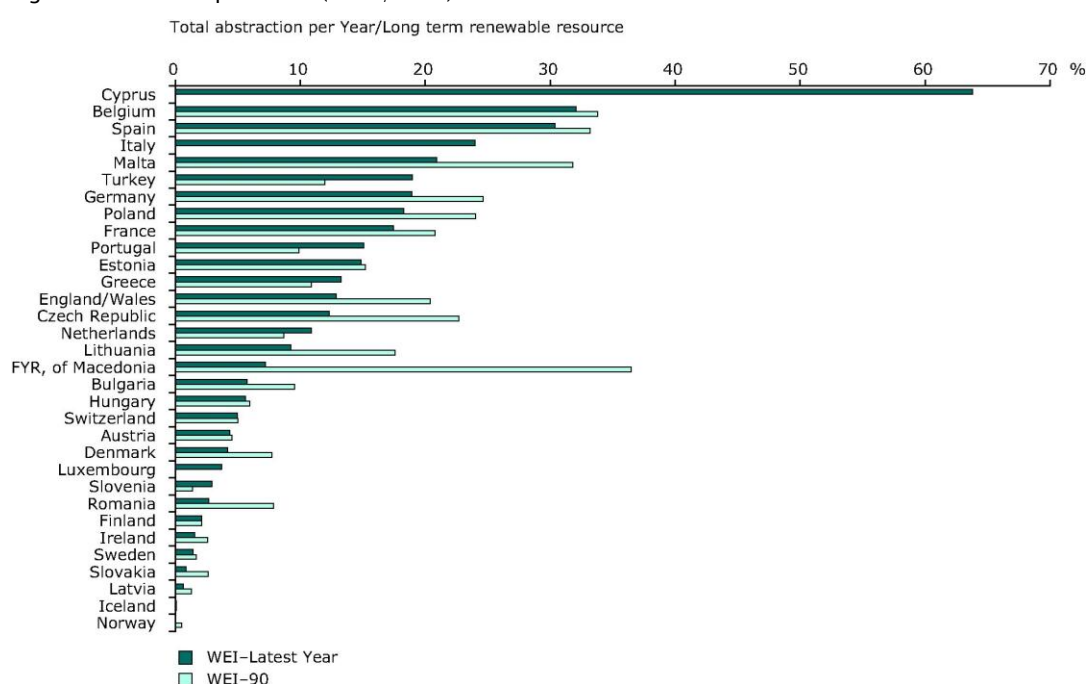
Source: European Commission, 2010: online.

Water quality

Due to water efficiency measures, the water exploitation decreased in 24 of the EEA countries between 1990 and 2010.

In Germany, the decrease was from 25% to 21%, Poland could reduce from 24% to 20%, the Czech Republic reduced from 23% to 13%, Hungary remains quite constant around 8% and Austria ranges on the same level. An interesting case is Slovenia, here the water exploitation increased from about 2% to 5%, due to the increase in total water abstraction. Slovakia decreased the level of exploitation from 5% to 2%; for Italy, no current data was available.¹³⁵

Figure 11: Water exploitation (1990/2010)



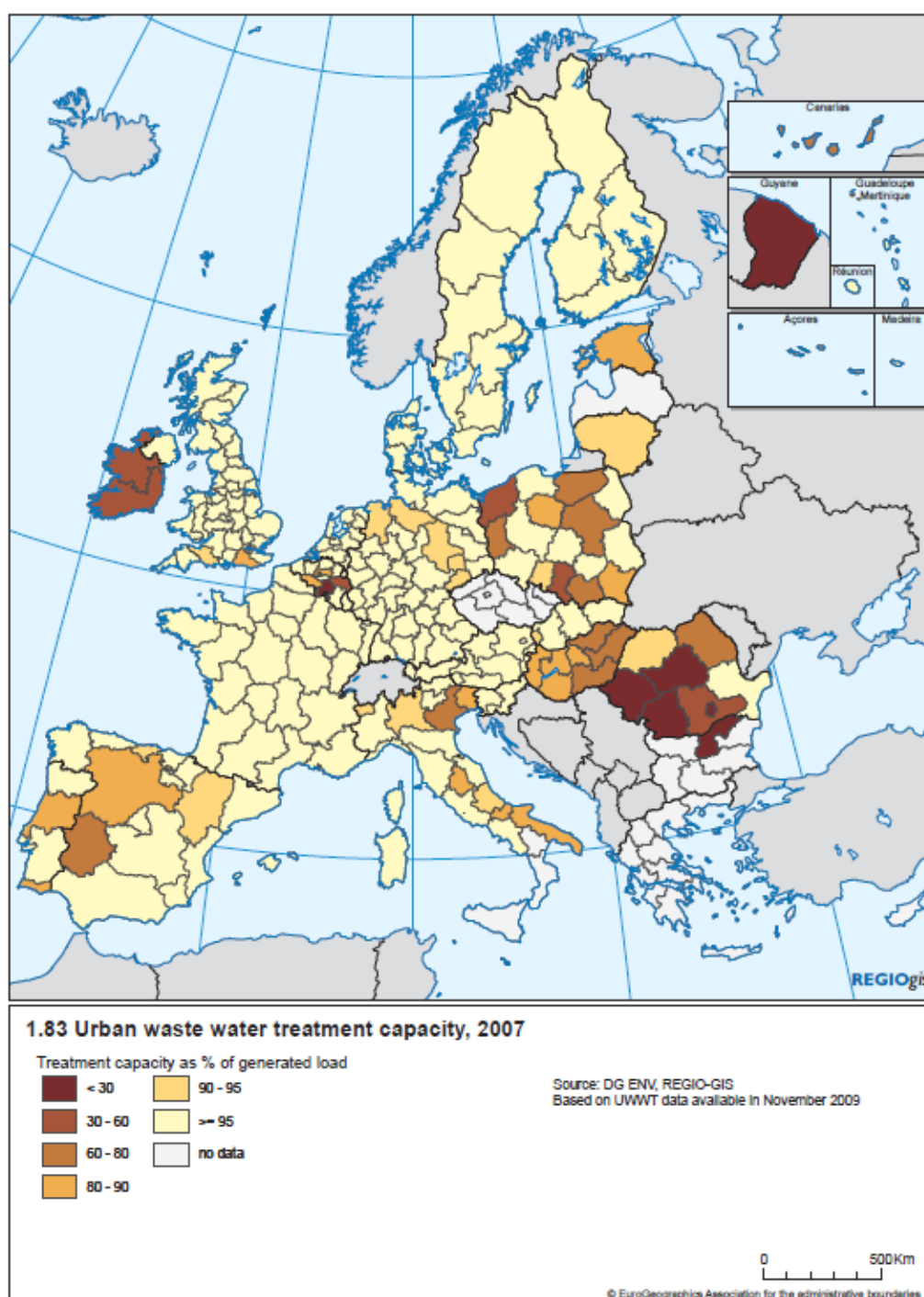
Source: EEA, 2012b: online.

Wastewater treatment represents an issue for the preservation of water reserves, as well as drinking water, water used by industries, tourism and environmental reasons in general. In the CENTRAL EUROPE area, a heterogeneous picture illustrates the situation of urban waste water treatment capacity (Map 32). In Slovakia, Slovenia, Austria and Germany the treatment capacity in most of the regions amounts more than 95% of the generated load of waste water. In Italy some regions show a very high waste water treatment capacity, although in some northern regions, the capacity amounts only 60% to 80%. In Hungary, the western part of the country shows higher capacity, ranging from 80% to 90% treatment capacity of the generated load, within the eastern located regions, the average waste water treatment capacity amounts 60% to 80%. Poland shows a very diverse image; in

¹³⁵ EEA, 2012b: online.

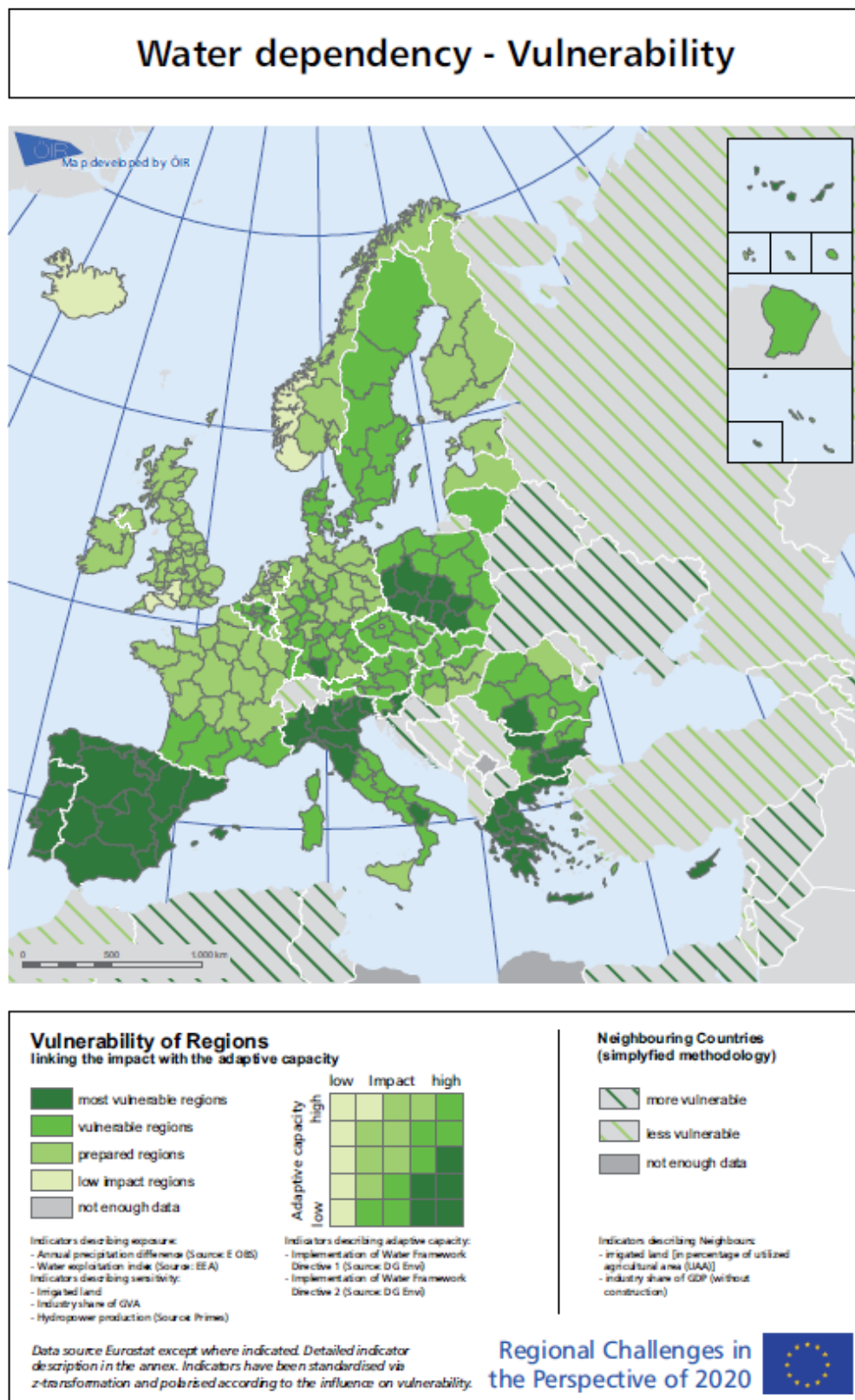
some western and southern regions the treatment capacity averages less than 30%. Other regions in central Poland show a treatment capacity of more than 95%. Different regions are ranging between 80% and 90% as well as on a lower level between 60% and 80%. For the regions of the Czech Republic no data is available. The analysed data references to the year 2006, it is expected, that the capacity of urban waste water treatment improved during the last funding period (investment in infrastructure).

Map 32: Urban waste water treatment capacity (2007)



Source: European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Map 33: Water dependency – Vulnerability



Source: Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis. Final report. Vienna/Heisdorf/Bonn, May 2011

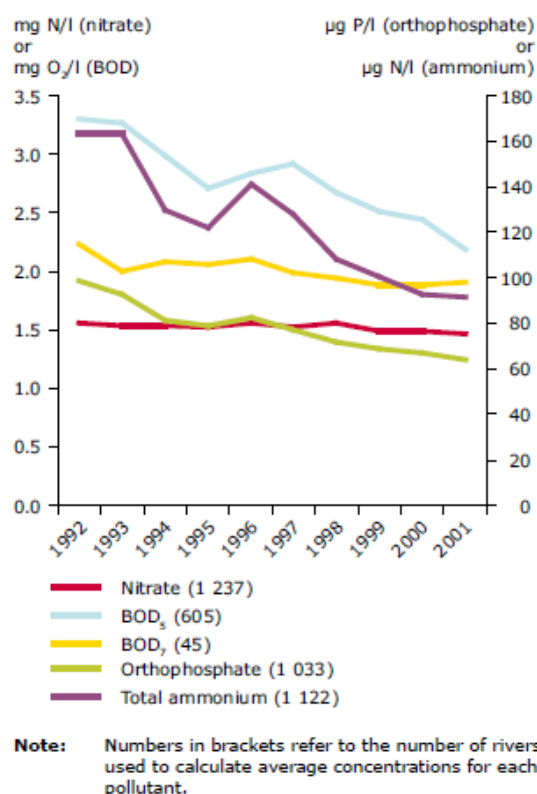
Considering the map above, CENTRAL EUROPE is marked as a vulnerable region concerning water dependency. In Southern regions, reasons for this dependency are the decreasing amount of rain combined with an intense agriculture with a high usage of water. In mountainous regions, such as the Alps, hydropower production is quite common. In CE especially regions in Northern Italy as well as in the Eastern part of Slovenia, and the South-Western regions of Poland show strong vulnerabilities in water dependency. Most of the other regions are quite vulnerable as well (Austria, the Czech Republic, Slovakia, the Northern regions of Poland as well as Northern Hungarian regions). Prepared regions towards water dependency belong to the Southern part of Hungary as well as some Eastern German regions.

Additionally, the quality of surface water is an issue within the CE area; in 2006 the EC adopted the proposal for a new directive, which was needed to support the Water Framework Directive, setting limits for concentration of chemical substances (risks for animals, plants, human health). The proposal of the directive includes key components, ranging from the establishment of environmental quality standards, the establishment of an inventory of discharges, emissions and losses and the identification of dangerous substances.¹³⁶

As the figure below shows, the water quality of rivers in Europe was improving (latest available data: 1992 and 2001) although a variety of water quality can be recognised.

¹³⁶ European Commission (2006): Proposal for a Directive of the European Parliament and of the Council on environmental quality standards in the field of water policy and amending Directive 2000/60/EC.

Figure 12: Average pollution concentrations for European rivers.

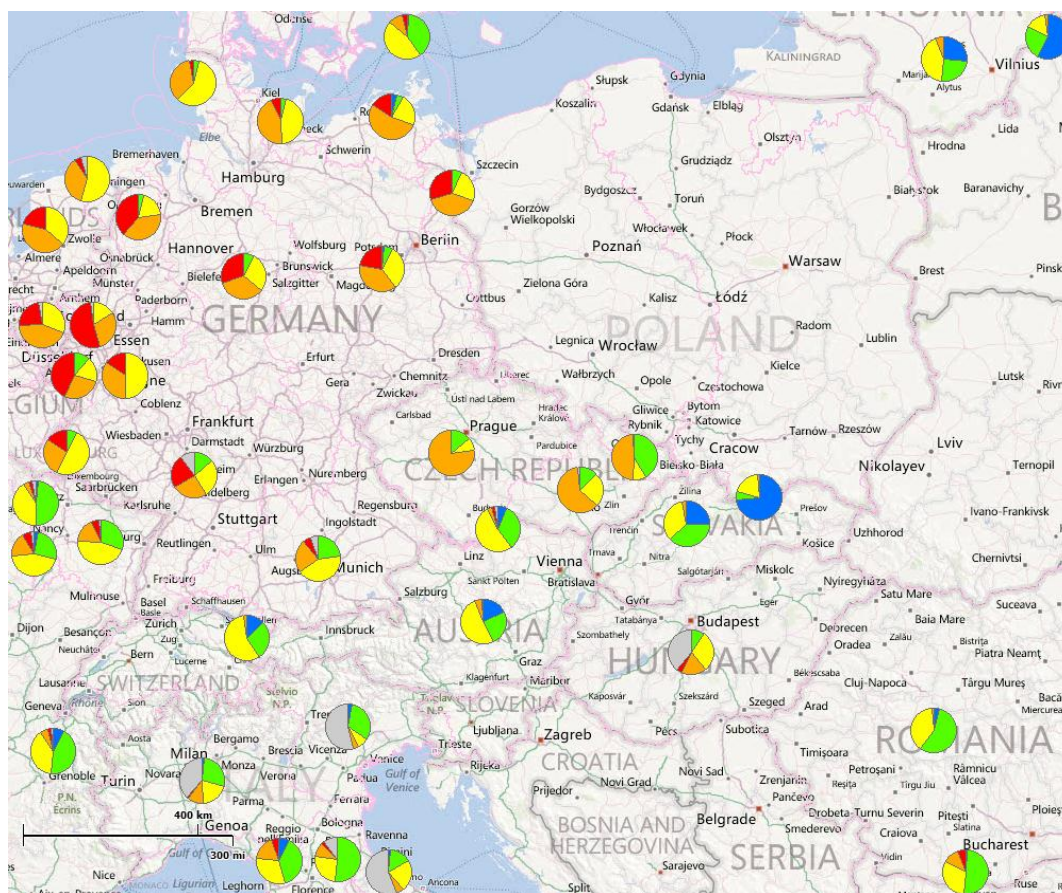


Source: EEA (2005): The European environment – State and outlook 2005.

The map below illustrates the ecological status of water bodies (surface water). The water bodies are differentiated by quality (high quality (blue), good quality (green), moderate quality (yellow), poor quality (orange) and bad quality (red)). Water bodies in Austria, the Czech Republic and Slovakia mostly show good quality, whereby Italian and German¹³⁷ as well as Hungarian regions largely show a low quality of water bodies (data gaps in Hungary and Italy; no data for Poland and Slovenia).

¹³⁷ National data only.

Map 34: Surface water quality – ecological status or potential.



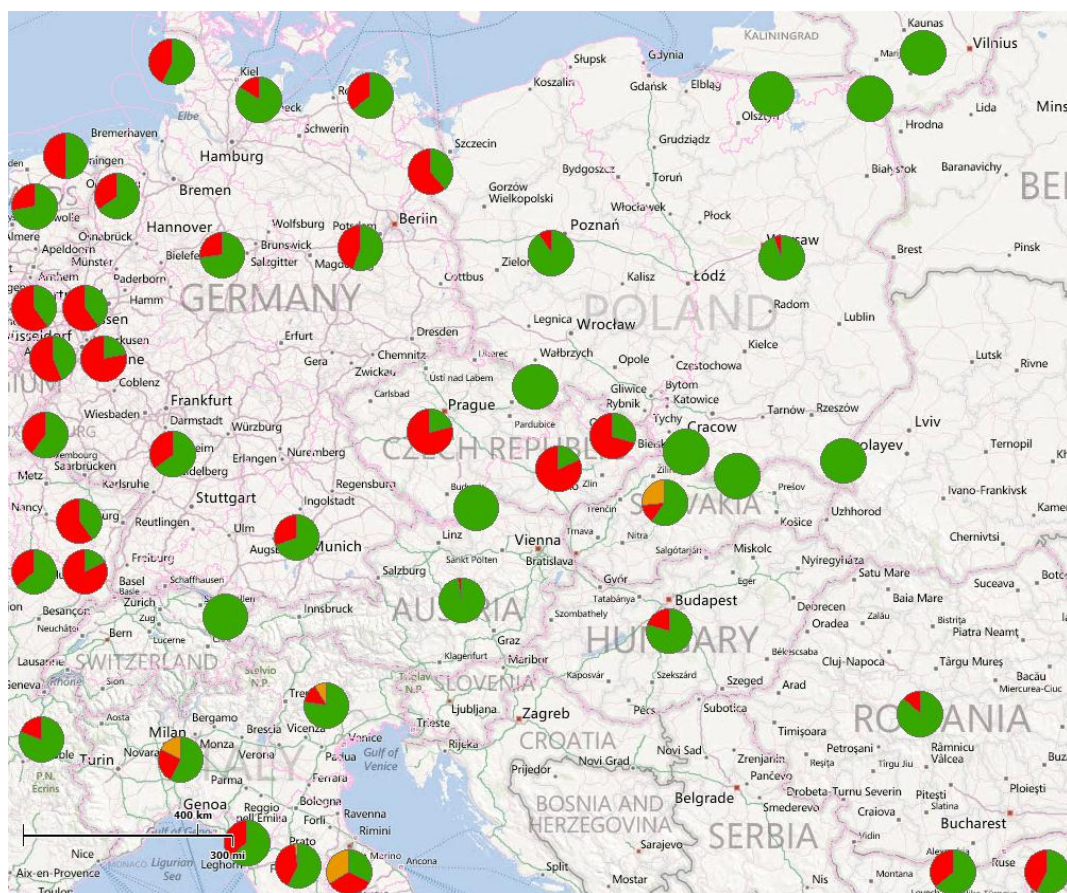
Source: EEA (2012): Surface Water Viewer, online.

The Water Framework Directive in general aims at achieving a good status for both – surface as well as groundwater – by 2015. Additionally, the EC Nitrates Directive is controlling nitrogen pollution in groundwater. Every MS therefore must identify groundwater that contains more than 50 mg/l nitrate or could contain more than 50 mg/l nitrate if preventative measures are not taken.¹³⁸

In the map below, the chemical status of groundwater bodies is illustrated. Austria shows a very good chemical status of groundwater. Hungary, Poland and Italy show a positive status as well (Data gaps in Italy and Slovakia (orange colour)). In the Czech Republic and Germany the chemical status of groundwater bodies is poor in many regions.

¹³⁸ EEA (2003): Europe's water: An indicator-based assessment.

Map 35: Chemical status of groundwater bodies per count.



Source: EEA (2012): Groundwater Water Viewer, online.

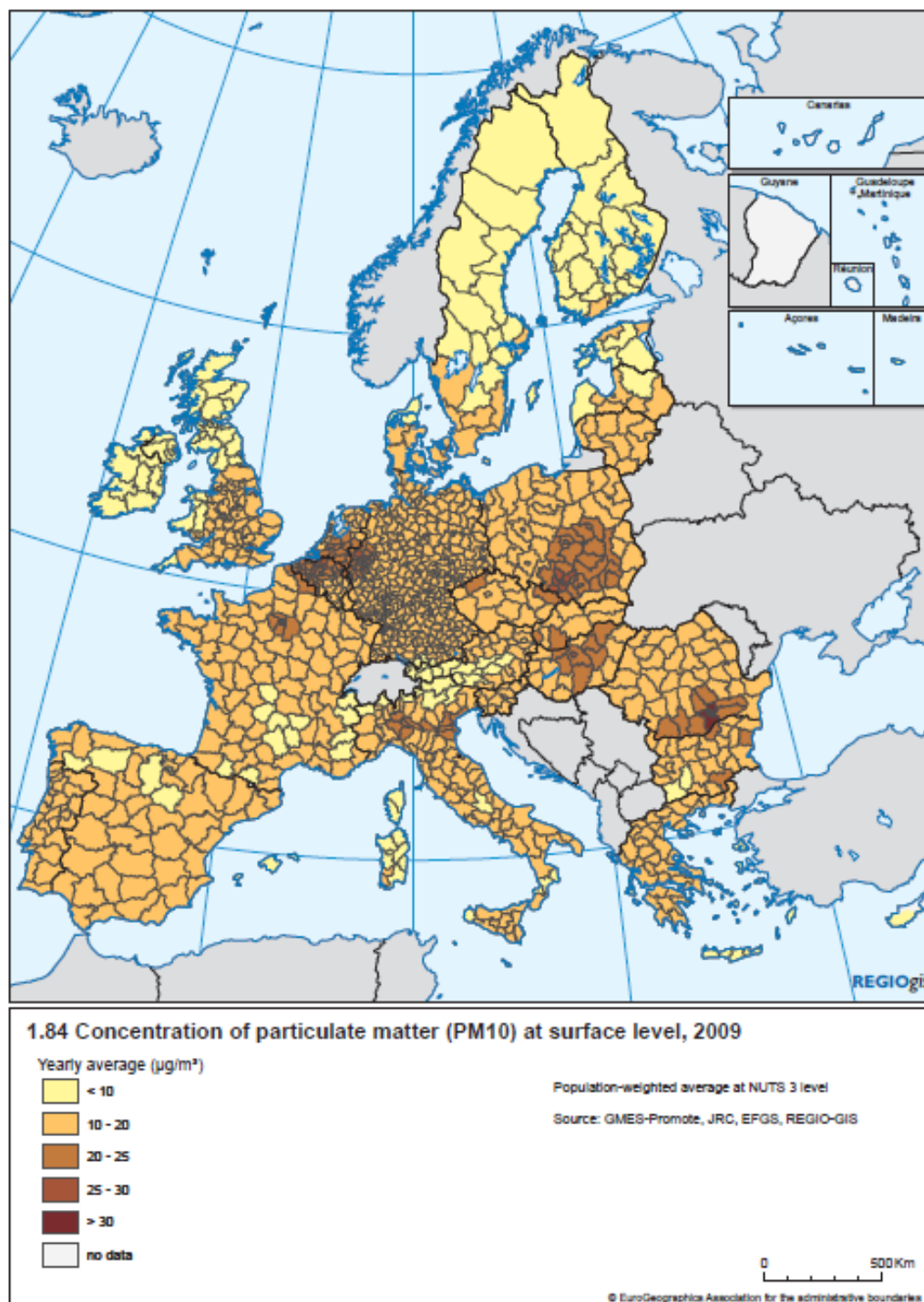
Air quality

Emissions are generally regulated by Directives of the European Union, concerning limits on emissions of different pollutants; these directives cannot provide any territorial evidence for the situation in CENTRAL EUROPE, although it can be mentioned, that regions which are most affected by high concentrations of particulate matter are located in the central part of the European Union. Other regions are located in south and central Poland as well as in Hungary. Taking the concentration of particulate matter (PM₁₀) into account (Map 36), it can be observed, that especially regions in Western Austria and Northern Italy show a very low level of yearly average concentration (<10µg/m³). Higher levels can be detected in the other regions of CENTRAL EUROPE, whereas – as already mentioned – very high levels can be identified in Poland and Hungary; also in the Czech Republic as well as in Slovakia, a higher concentration of particulate matter can be identified in a few regions (an increased concentration includes a yearly average of 20–25 10µg/m³).

Additional relevance for air quality within the CE area has the concentration of Ozone (Map 37). In 2008, regions in Poland, the Czech Republic and Austria, did not exceed the ozone concentration (maximum: 4 days with exceedance). In some

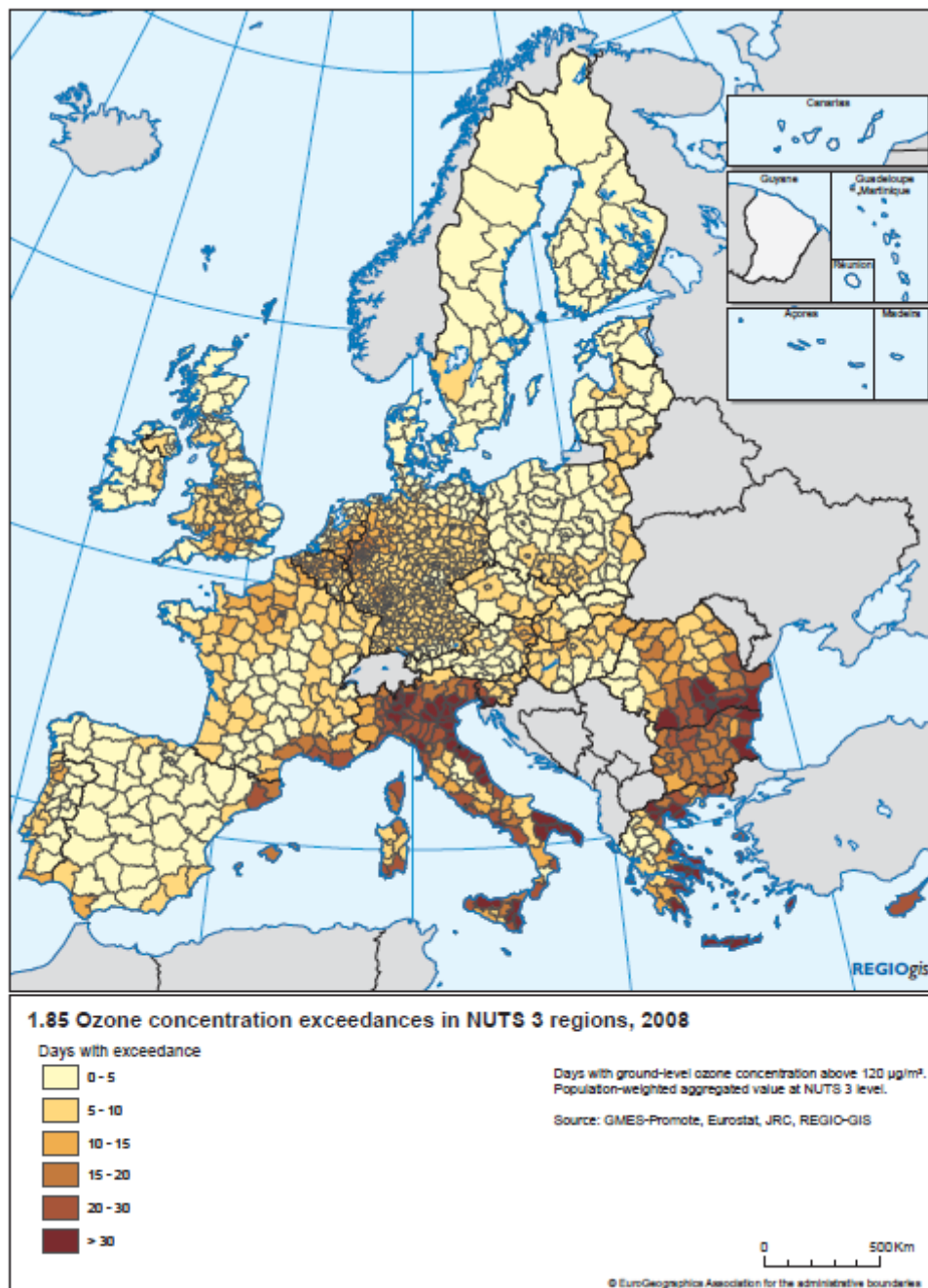
Czech, German, Hungarian and Slovakian regions as well as in Slovenia, the days with exceedance, ranged from 10 to 15 days in the year 2008. Especially high values can be identified in Northern Italian regions, the values vary between 20 and more than 30 days per year with ozone concentration exceedance in 2008.

Map 36: Air quality: Concentration of particulate matter at surface level. Data from 2009



Source: European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Map 37: Air quality: Ozone concentration exceedance in 2008



Source: European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

Soil quality

An issue for the quality of soil within the CE area is the percentage of soil sealed within an area. High values of sealed soil are results of infrastructure construction and urban development; "Ecological soil functions of sealed areas are severely impaired or even prevented (...). In addition, surrounding soils may be affected by

changes in water flow patterns or the fragmentation of habitats”¹³⁹. Furthermore the occurrence of floods is increasing.

Within the CE area, the western and southern German regions show high levels of sealed soil (Map 38).¹⁴⁰ Furthermore, high levels can be identified in Northern Italian regions, around the capital cities (e.g. in Austria, Hungary, Slovakia) as well as in southern Polish regions. These developments outline the need for improvements as well as new strategies for land use. The analysed data refers to the situation in 2006, it's expected, that the situation of sealed soil has worsened.

A corresponding issue which may represent an alternative development opportunity is the development of brownfields and deprived areas, which result from changed types of industry and urban development. They may be affected by the former land use, may be underused and may need a sort of intervention to be used again¹⁴¹.

Within the CABERNET programme, the different member states of CENTRAL EUROPE (national level only) were analysed concerning the different types of brownfield: for example in Austria, brownfields are located in industrial regions and are often colligated with infrastructural decline. In Germany, the awareness concerning brownfield development is increasing, and frequently discussed, due to increasing land consumption taking place at the same time. In Italy, especially in the regions in the North of the country the development of brownfields is an issue too.¹⁴² Due to the analysis of brownfield development, which took place in the former funding period, CENTRAL EUROPEAN regions located in the Ukraine, Poland, the Czech Republic, Slovakia, Hungary and Slovenia were not integrated into this analysis, therefore a complete assessment is not possible, although the issue of brownfield development seems to outline an important topic for the area.

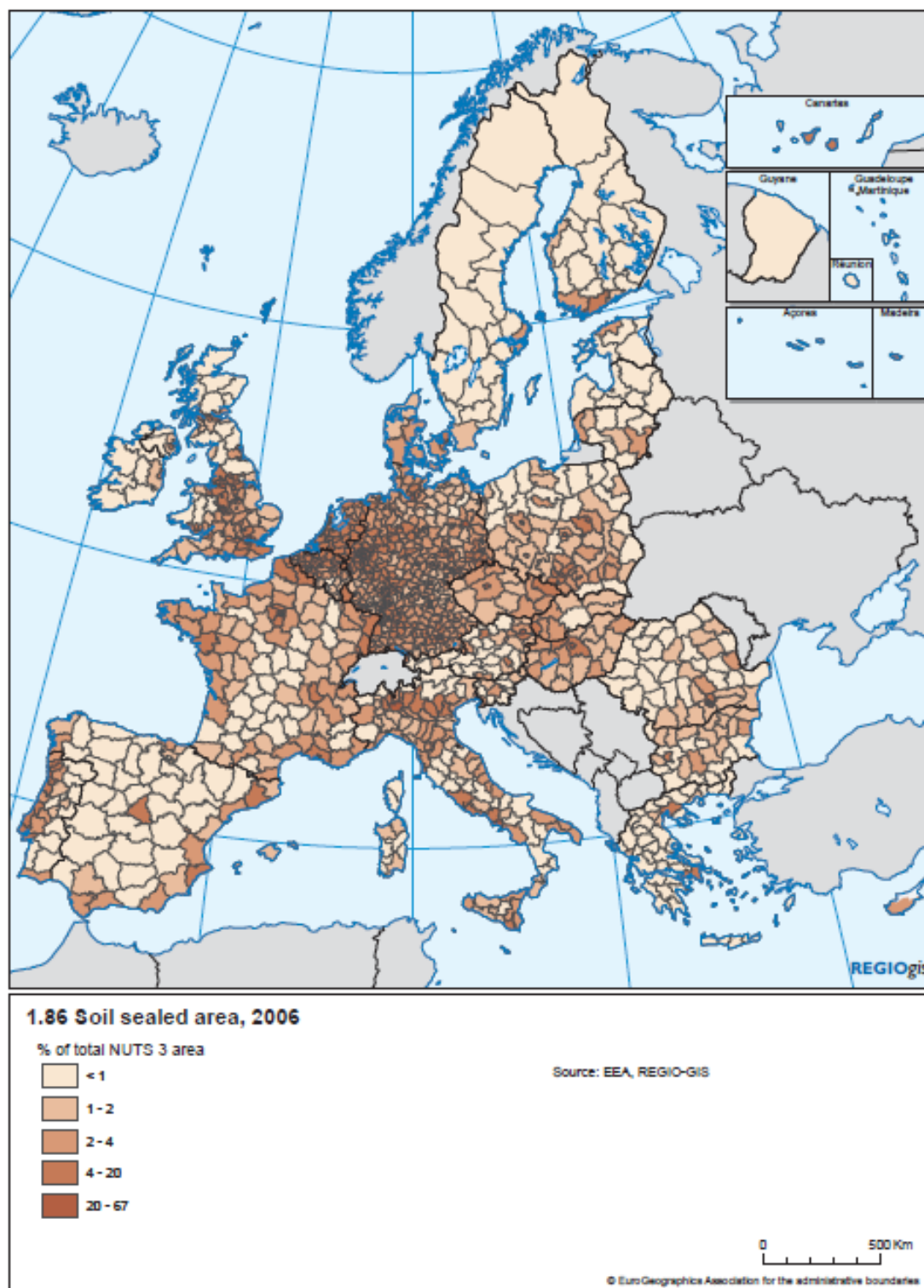
¹³⁹ European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

¹⁴⁰ Data from 2006.

¹⁴¹ CABERNET, 2012: online.

¹⁴² CABERNET, 2012: online.

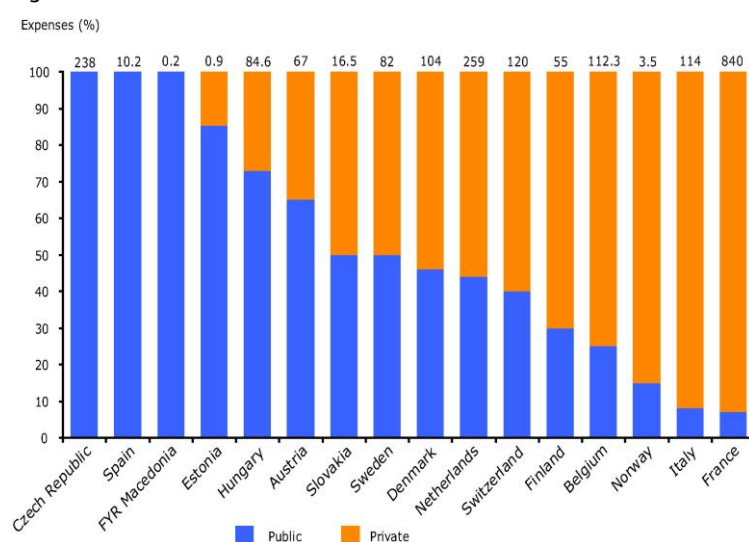
Map 38: Soil sealed area (2006)



Source: European Union (2010): Investing in Europe's future. Fifth report on economic, social and territorial cohesion.

The EEA assessed the progress in management of contaminated sites. Generally there exist about 250.000 sites in all EEA member countries, which require cleaning up, but no specific data for the CENTRAL EUROPEAN regions is available. The figure below outlines the estimated allocation of public and private expenditures for the management of contaminated sites for some areas. Especially Italy shows a high level of private expenditure (more than 90%). In Slovakia half of the expenditure is public; the other part is privately financed. In Austria and Hungary, the public expenditure ranges from 60 to 70%. In the Czech Republic site remediation is financed totally from the public. The data represents the national level and only shows an extract of the CENTRAL area, no definite territorial evidence can be identified.

Figure 13: Estimated allocation for site remediation



Source: EEA, 2012: online

Environment

- ▶ Mean proportion of protected areas in the EU-27 (2010): 13%
- ▶ Five regions in PL and three regions of SK show high vulnerability due to a low adaptive capacity of these areas in relation to other parts of CE
- ▶ In most of the regions of former GDR, the average waste production reaches 400 kg per capita.
- ▶ The greatest municipal waste generation in CE was to be observed in Austrian and Italian regions.
- ▶ Most of the CE countries decreased their water exploitation between 1990 and 2010.
- ▶ In Slovenia, the level of water exploitation increased from about 2% to 5% due to an increase in total water abstraction.
- ▶ In Slovakia, Slovenia, Austria and Germany most of the regions the treatment capacity amount more than 95% of the generated load of waste water.
- ▶ Western Austrian and Northern Italian regions show a very low level of yearly average concentration of particular matter (PM 10) ($<10\mu\text{g}/\text{m}^2$).
- ▶ High levels of yearly average concentration of particular matter can be identified in Poland and Hungary, the Czech Republic as well as in Slovakia.
- ▶ Especially high values of Ozone can be identified in Northern Italian regions.
- ▶ Within the CE area, the western and southern German regions show high levels of sealed soil.
- ▶ High levels of sealed soil correspond with (the option of) brownfield development.
- ▶ Italy shows high level of private expenditure on the management of contaminated sites.
- ▶ Lower private levels can be identified in Slovakia (50%) as well as in Austria and Hungary (30–40%).
- ▶ In the Czech Republic site remediation is financed totally from the public.

2.1.9 Governance

Territorial governance can be defined as “a process of the organization and co-ordination of actors to develop territorial capital¹⁴³ in a non-destructive way in order to improve territorial cohesion at different levels. [...] In order to use and develop this territorial capital a key challenge for the territorial governance process is to create horizontal and vertical cooperation/ coordination between various levels of government (multi-level governance, vertical relations), between sectoral policies with territorial impact, between territories – neighbouring or not – as well as between governmental and non-governmental organizations and citizens (multi-channel governance, horizontal relations); and to achieve integration and coherence between disparate responsibilities, competences and visions of territories, in order to help territorial cohesion in a sustainable way (non-destructive use of territorial specificities).¹⁴⁴ Although the Central/Federal State still plays a main role as a coordinator and main supplier of funds, and hierarchical relations still determine many of the preconditions and parameters for decision-making, problem-solving, management and conflict resolution, government and governance should be interpreted not as two opposite concepts, but as closely related in a progressive-incremental process. Participation, openness, effectiveness, and accountability seem to be the central elements of ‘good governance’ in urban and territorial policies.¹⁴⁵

The vertical organization (structure) of countries in the CENTRAL EUROPE area varies (see Map below), as well as the relationships between the authorities and stakeholders at different levels:

- ▶ Hungary and Slovenia are Centralised Unitary States, with regional levels or authorities existing for administrative reasons, which are subordinated to the Central Government. Most of the New Member States (and Candidate countries) of the EU fall into this category. Following the classification of characteristics determining style of planning by Dubois, A. (2005) and Wassenhoven, L. (2005)¹⁴⁶, decentralization processes in Hungary are carried out by existing local authorities, while the process in Slovenia is described as Administrative Regionalization. The devolution of spatial planning powers to the regions is characterized by a dominant central state. In Hungary ESPON 2.3.2 identifies a powerful local-municipal level, which is not the case in Slovenia.

¹⁴³ The notion of territorial capital refers to the potential of a territory and is the summation of six other forms of capital: Intellectual capital, Social capital, Political capital, Material capital, Cultural capital, Geographical capital

¹⁴⁴ ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report.

¹⁴⁵ See ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report.

¹⁴⁶ Dubois, A. (2005), Scenarios baseline on “Issues of territorial governance”, Working Paper, ESPON 3.2. Wassenhoven, L. (2005), Working document on devolution of spatial planning powers (ESPON 2.3.2, December 2005).

- ▶ The Czech Republic and Slovakia, which both have powerful local levels and governments, are Decentralised Unitary States. In these countries a certain degree of decentralisation and of devolution of competencies and powers to sub-national authorities already exists, although this decentralisation is taking place through local authorities or inter-municipal co-operation bodies. In Slovakia, ESPON 2.3.2 identifies a powerful central state with spatial planning powers also at local-municipal level. In the Czech Republic, the central state is deemed relatively weak in terms of spatial planning powers.
- ▶ Italy, having wide legislative powers at regional scale for the whole of its territory and Poland are so-called Regionalised Unitary States: Both countries have a regional level clearly differentiated from the groups of local authorities and from being mere subsidiaries of the Central Government. Regionalised Unitary States have regional governments with a certain degree of autonomy. In Poland and Italy, the devolution of spatial planning powers to the regions is characterized by a strong central state and spatial planning powers are concentrated in powerful local-municipal levels as well as an equally strong central state (see ESPON 2.3.2).
- ▶ Germany and Austria are Federal States characterized by a union of partially self-governing regions (Länder) united by a central (federal) government. According to the ESPON 2.3.2 classification, the devolution of spatial planning powers to the regions in Austria is characterized by a weak central state and weak regions. Spatial planning powers are concentrated in a powerful local-municipal level. However, regional spatial planning exists through intercommunal cooperation. Germany is characterized by a strong central state as well as strong regions. Regional spatial planning is also fostered by intercommunal cooperation as well as national-regional interactive, negotiative and / or contractual approaches to spatial planning (see ESPON 2.3.2).

Map 39: Models of state in Europe



Source: ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report)

The spectrum of cooperation arrangements at all territorial levels is not necessarily correlated with particular national constitutional forms. However, multi-channel relations, the formation of partnerships and the participation of non-public actors are very closely related to national traditions. In the European Union as a whole, as well as in the CENTRAL EUROPE area, there exists a diversity of governance forms, which are significantly influenced by natural cultures and traditions. Individual aspects of governance are understood, let alone implemented, in widely different ways, especially when their application touches on everyday social interests and practices. Here, among other factors the influence of EU funding shows positive

effects in bringing together these different styles of governance, which are especially visible in the New Member States.¹⁴⁷

Not only cooperation between various levels of government is being stimulated by European cohesion policy, but also cooperation between different territories. There exists a network of cooperation activities in the transnational cooperation area of Central Europe. Many of the successful cases of increased collaboration resulting in joint spatial development plans or visions are generated through a pragmatic need for closer functionally based co-operation and interaction in functional regions covering increasingly large geographical areas¹⁴⁸. Many overlaps and synergies as well as positive effects on horizontal governance bridging can be drawn from different cooperation initiatives in Central Europe.

The CENTRAL EUROPEAN region is part of different types of co-operation. The so-called macro-regional strategies within the European Union should put forward co-operative activities and projects and are generally “a jointly agreed strategy on how to overcome challenges identified within a macro-region.”¹⁴⁹ A Macro-region can be defined as “an area including territory from a number of different countries or regions associated with one or more common features or challenges.”¹⁵⁰ As macro-regions offer a new scale for territorial governance, “[...] their production as new objects for policy attention challenges the installation of new modes of governance in order to literally fill the organisational and institutional vacuum that emerges once a new macro-region is produced. [...] Macro-regions can thus be considered as a specific interface between different established scales”.¹⁵¹

As the main macro-regional strategies covering also parts of the CE-space may be mentioned the Danube Strategy, the Baltic Sea Strategy as well as the Mediterranean strategy. For the implementation of these strategies, transnational projects have the task to join needs and commitments of the region as well as to pave “the way for local and national implementation of macro-regional strategies and [drive] (...) political and strategic choices within a transnational and macro-regional framework.”¹⁵²

¹⁴⁷ ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report.

¹⁴⁸ ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report

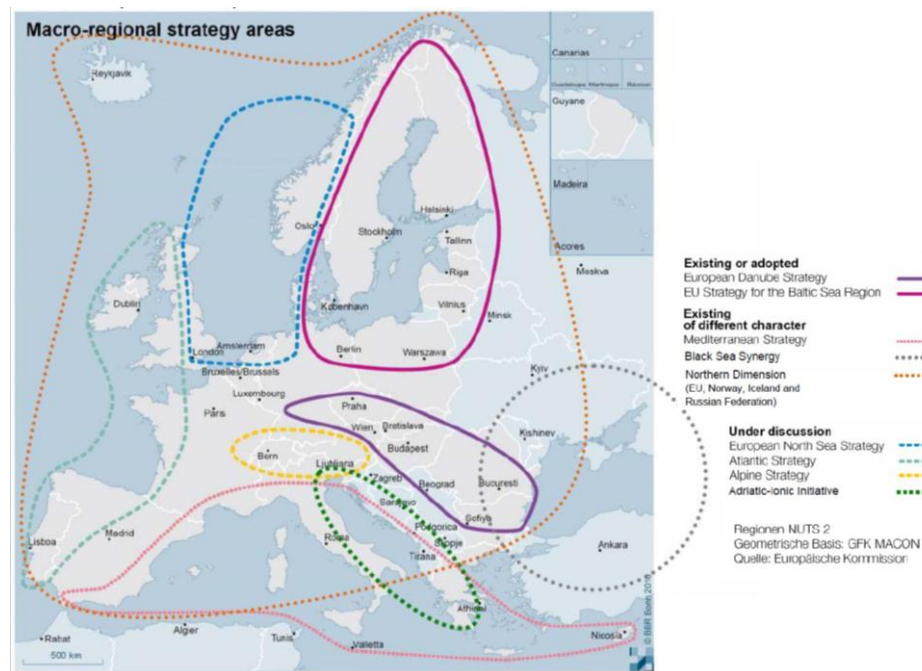
¹⁴⁹ Blais, E.; Liepa, B. (2012): What are macro-regions all about? INTERACT, 2012: online.

¹⁵⁰ Samecki, P. (2009): Discussion Paper on Macro-regional strategies in the EU.
http://ec.europa.eu/regional_policy/cooperate/baltic/pdf/macoregional_strategies_2009.pdf

¹⁵¹ Nordregio (2009): EU macro-regions and macro-regional strategies – A scoping study. NORDREGIO ELECTRONIC WORKING PAPER 2009:4

¹⁵² Blais, E.; Liepa, B. (2012): What are macro-regions all about? INTERACT, 2012: online.

Map 40: Core areas of macroregional strategies of the European Union



Source: Dühr (2011), based on BBSR Research News 2/2010

The EU Strategy for the Baltic Sea Region (EUSBSR) has been adopted in 2009 and is covering the whole macro-region around the Baltic Sea. Nine states are bordering the Baltic Sea, eight of them as members of the European Union. The Baltic Sea Regions represents a heterogeneous area concerning economy, environment and culture. The area is supposed to be “a model of regional co-operation where new ideas and approaches can be tested and developed over time as best practice examples”¹⁵³. The strategy should furthermore address urgent environmental challenges and should represent the basis for co-operative regional development.

The Strategy for the Danube Region was prepared from the European commission in 2009 and officially adopted from the European Commission in 2010 (endorsed in 2011 by the European Council). The strategy builds upon four thematic pillars, which are representing the core of the strategy, representing “the main areas where the macro-regional strategy can contribute to improvements (either through tackling the main challenges or through seizing the main opportunities)”¹⁵⁴. The issues of mobility and multimodality as well as sustainable transport is part of the strategy, additionally the protection of the environment (water quality, environmental risks, biodiversity), prosperity (R&D, knowledge society, education and information technologies) as well as the issue of institutional capacity are part of the strategy.

¹⁵³ European Commission (2012): EUSBSR, 2012: online.

¹⁵⁴ European Commission (2010): EUSDR, 2012: online.

The Mediterranean Strategy for sustainable development (MSSD) was adopted in 2005 and aims to contribute to economic development, reduce social disparities, strengthen diversity, ensure sustainable management of natural resources and to improve governance at local, national, regional levels in the Mediterranean Sea area.¹⁵⁵

Another strategy under discussion is the so-called Adriatic-Ionian Sea Strategy. The area is highly heterogeneous and dense in economic, environmental and cultural terms. It is also constituted of valuable and vulnerable marine ecosystems facing important challenges. A more strategic cooperation is aimed at generating growth and employment through innovation, long term sustainable and responsible fisheries, good environmental status of the marine environment as well as a safer and more secure sea.¹⁵⁶

Another strategy for cooperation and multi-sectoral policy is for example the Carpathian Convention. It was initiated by UNEP (United Nations Environment Programme)/ROE (Regional Office for Europe) and aims at providing a sustainable development, ecological coherence and sustainable tourism. Countries of the CE-area, which are involved, are the Czech Republic, Hungary, Poland, the Slovak Republic and the Ukraine.¹⁵⁷

Another co-operation reflecting a functional area (in the sense of EGTC¹⁵⁸) is the CENTROPE region. The region comprises areas of the Czech Republic, Slovakia, Hungary and Austria. Main cities of the area are Brno, Bratislava, Győr and Vienna. In total, eight federal provinces/regions of four countries are part of the co-operative network, which aims to create a Central European Region with deepened cooperative relations, common strategies, measures and activities.¹⁵⁹

Last but not least the multiple overlaps of several CE regions with a number of other EU transnational cooperation programmes cause cross-fertilisation and horizontal governance bridging several EU cooperation areas. The transnational cooperation programmes with overlaps with the CE programme are (In brackets those regions included in the CE programming area as well as in the respective transnational cooperation programme):

- ▶ Baltic Sea Programme (Poland and parts of Germany)
- ▶ North-West Europe (parts of Southern Germany)
- ▶ Alpine Space (Northern Italy, Austria, Southern Germany, Slovenia)

¹⁵⁵ See <http://www.unepmap.org/index.php?module=content2&catid=001017002001>

¹⁵⁶ See http://ec.europa.eu/maritimeaffairs/policy/sea_basins/adriatic_ionian/index_en.htm

¹⁵⁷ See <http://www.carpathianconvention.org/>

¹⁵⁸ European Grouping for Territorial Cooperation (EGTC) is a Community level cooperation instrument with legal personality created on July 5, 2006 under EU council Regulation 1082/2006

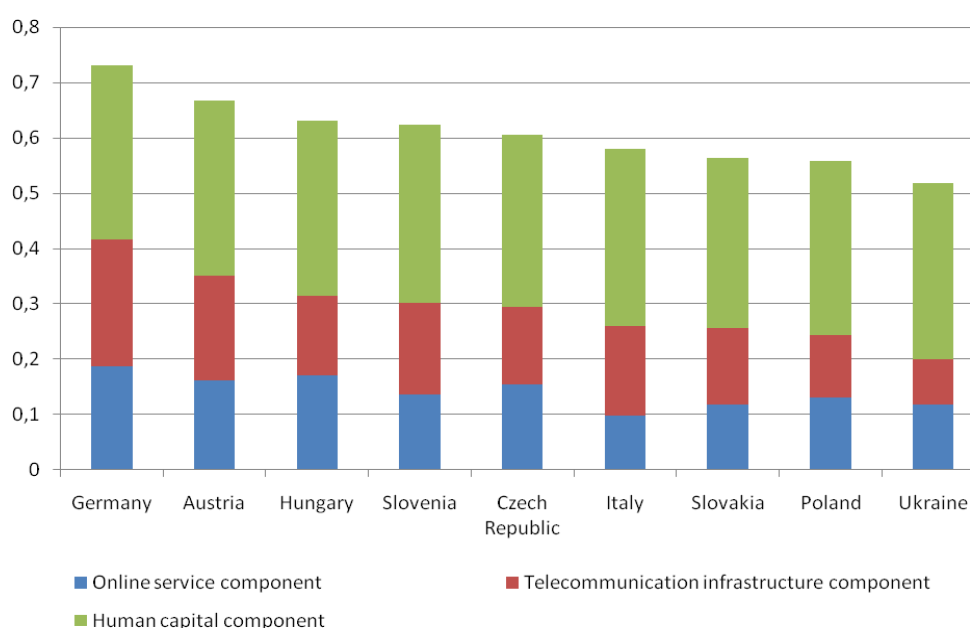
¹⁵⁹ See <http://www.centrope.com/en>

- ▶ Mediterranean Programme (Northern Italy, Slovenia)
- ▶ South East Europe (Austria, parts of Northern Italy, Slovenia, Hungary, Slovakia)

EU policy and national policy go hand in hand in terms of public administration. This can be interpreted as a success of the new models and requirements for projects and strategies. Key challenges for governance are emerging practices like the increase in the participation of local communities in higher-level public decisions. Public participation is also related to openness and informal ways of informing stakeholders, as well as more formal processes. The second challenge is the transition from hard management to a more flexible model featuring negotiation and cooperation. Governments should support and facilitate mobility between public employees in the EU and improve employee training both quantitatively and qualitatively.

The previous traditional method of administration is increasingly being replaced by e-administration. This helps improving the access of the public to the public sector. One indicator describing the state of e-government is the e-government development index, which includes three components: the online service component, the telecommunication infrastructure component and the human capital component. The figure below shows the differentiation of this indicator in the countries of CENTRAL EUROPE. Germany and Austria have the highest level of e-government in comparison to other states. The lowest level is to be found in the former Eastern Bloc – Ukraine, Poland and Slovakia. Among the new EU member countries, Hungary shows the greatest value of the e-government development index. In turn, the value of this factor is unexpectedly low in the case of Italy.

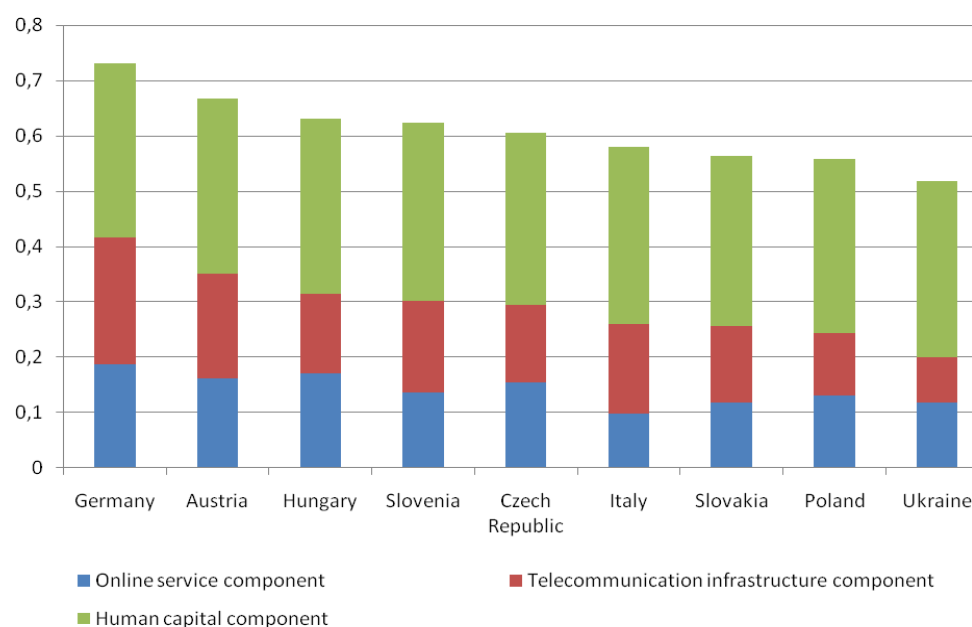
Figure 14: E-government development index



Source: IGSO PAS based on World Bank

Chaotic legislation results in ineffectiveness and may breed corruption¹⁶⁰. Transparency International (TI) defines corruption as the abuse of entrusted power for private gain. This definition encompasses corrupt practices in both the public and private sectors¹⁶¹. The Corruption Perception Index (CPI) shows the level of corruption in each country (mostly frequency and/or size of bribes) on a 0–10 scale (0 corresponding to highly corrupt and 10 to very clean countries) and therefore can be used as an indicator for government efficiency. The highest corruption level is identified in Italy (about 2), but from the western part of CENTRAL EUROPE, more developed countries generally register lower levels on the CPI (higher than 6), which is also connected with their history (countries from former socialist bloc tend to have higher levels of corruption).

Figure 15: E-government development index



Source: IGSO PAS based on World Bank

The previous traditional method of administration is increasingly being replaced by e-administration. The e-government development index includes three indicators: the online service component, the telecommunication infrastructure component and the human capital component. The figure above shows the differentiation of this indicator in the countries of CENTRAL EUROPE. Germany and Austria have the highest level of e-government in comparison to other states. The lowest level is to be found in the former Eastern Bloc – Ukraine, Poland and Slovakia. Among the new EU member countries, Hungary shows the greatest value of the e-government

¹⁶⁰ ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report

¹⁶¹ Corruption Perception Index 2010. Report. Transparency International. Germany 2010.

development index. In turn, the value of this factor is unexpectedly low in the case of Italy.

Governance

- ▶ Key challenge for the territorial governance process is to create horizontal and vertical cooperation in order to develop territorial capital.
- ▶ The vertical organization (structure) of countries in the CENTRAL EUROPE area varies, as well as the relationships between the authorities and stakeholders at different levels. Also planning styles and the distribution of spatial planning power varies between countries.
- ▶ The diversity of governance forms existing in Central Europe is significantly influenced by natural cultures and traditions. EU funding shows positive effects in bringing together these different styles of governance.
- ▶ The pragmatic need for closer functionally based co-operation and interaction in functional regions covering increasingly large geographical areas leads to joint spatial development plans or visions for regions associated with one or more common features or challenges.
- ▶ Cooperation in Central Europe: macro-regions (Baltic Sea, Danube Region, Adriatic Sea) and other types of co-operation (e.g. CENTROPE, Carpathian Co-operation, other transnational cooperation programmes) create horizontal and vertical cooperation/coordination between:
 - a) various levels of government (multi-level governance, vertical relations)
 - b) sectoral policies with territorial impact
 - c) governmental and nongovernmental organizations and citizens (multi-channel governance, horizontal relations between actors and their territories)¹⁶²
- ▶ Traditional administration is partly replaced by e-administration (online service component, human capital component, telecommunication infrastructure component) to improve the access of the public to the public sector – Germany and Austria show highest level, Ukraine, Poland and Slovakia show lowest level
- ▶ Increase in participation of local communities in higher-level public decisions

¹⁶² ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report

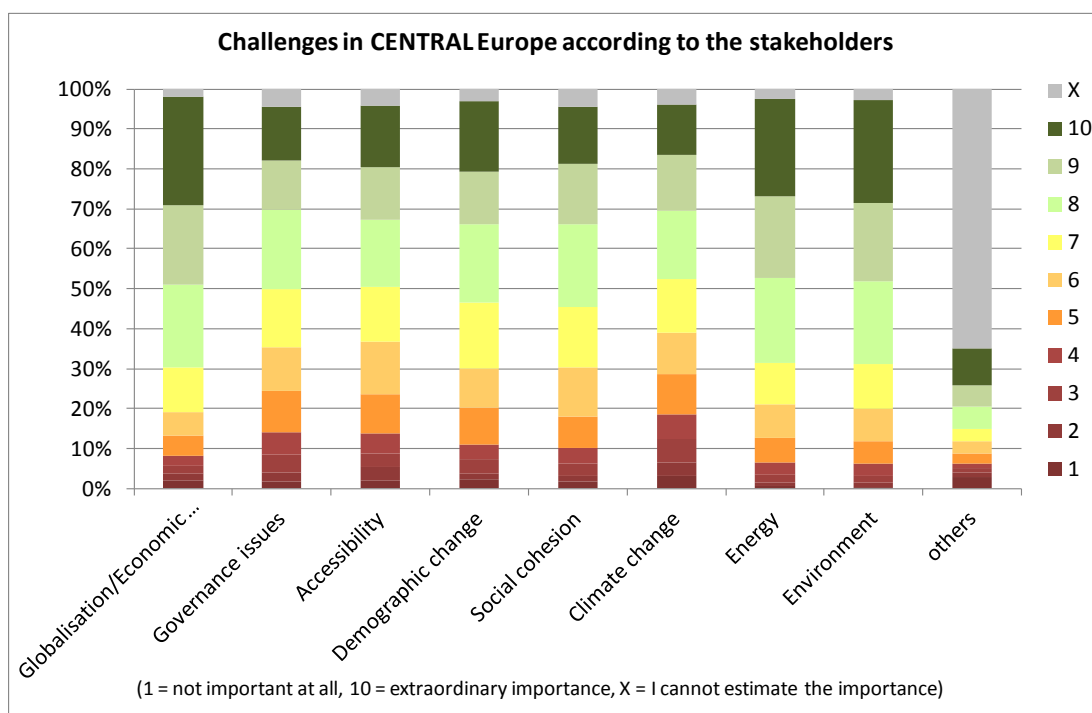
2.2 The stakeholders' point of view

2.2.1 Results from the online survey

As all selections offered in the online survey are acknowledged to be important challenges at least to some areas and in certain contexts, it is hardly surprising that all of them scored very high on a scale from 1 (not important at all) to 10 (extraordinary importance). More interesting is the prioritisation (Figure 16). It becomes very clear that on a scale of ten, only very few people selected values between 1 and 5 as all challenges available are acknowledged as present and important anyway. In other words, scores below 8 hardly ever were assigned by more than 50% of participants. This is why on the following figures values were grouped either by using colour codes or by aggregating only the very the highest (9 and 10) or the very lowest values (1 to 5) to make the extremes visible. Although the results are rather evenly distributed, there are some notable findings:

- ▶ The highest share of values 10 and 9 was accomplished by the challenge of 'Globalisation/economic development'. Only very few participants thought that this challenge was not very important.
- ▶ Close behind are the challenges 'Energy' and 'Environment'.
- ▶ On the other side of the scale is the challenge of 'Climate change'. Although most stakeholders accepted climate change as an issue, more than 50% of the participants only selected values between 1 and 7. More than 10% even rated climate change as subordinate with selections 1, 2 or 3.
- ▶ Other challenges with inferior scores are 'Accessibility' and 'Governance'.

Figure 16: Challenges in CENTRAL Europe according to the stakeholders



Analysed by country, the number of participants who checked the highest values 9 and 10 and the lowest values 1 to 5 were separated to provide a graspable picture (Figure 17) and on the other hand side, the number of participants who checked the lowest values 1 to 5 (Figure 18), contrary trends are visible:

- ▶ ‘Climate change’ scores very low in the Czech Republic, Poland and Hungary
- ▶ ‘Governance’ scores very low in Germany.
- ▶ ‘Accessibility’ and ‘Demographic change’ do not seem to be a major challenge in Italy.

There is an abundance of information; however, some trends can be discovered in the highest rated challenges:

- ▶ There is a strong focus on ‘Accessibility’ in the New Member States, especially in the Czech Republic, Poland and Slovakia.
- ▶ Also highly rated in these countries are governance issues
- ▶ Demographic change is considered a major issue only in Germany
- ▶ In the three old member states, Austria, Germany and Italy, energy is rated notably higher than in the rest.

Figure 17: Most important challenges in CENTRAL Europe according to the stakeholders by country

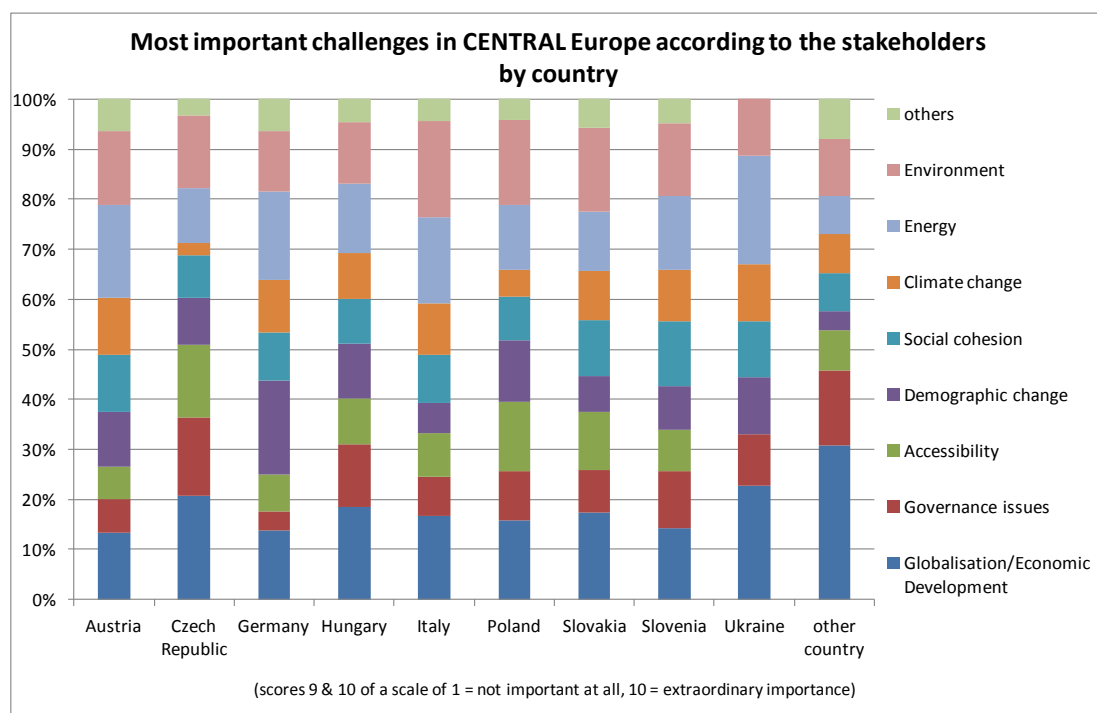
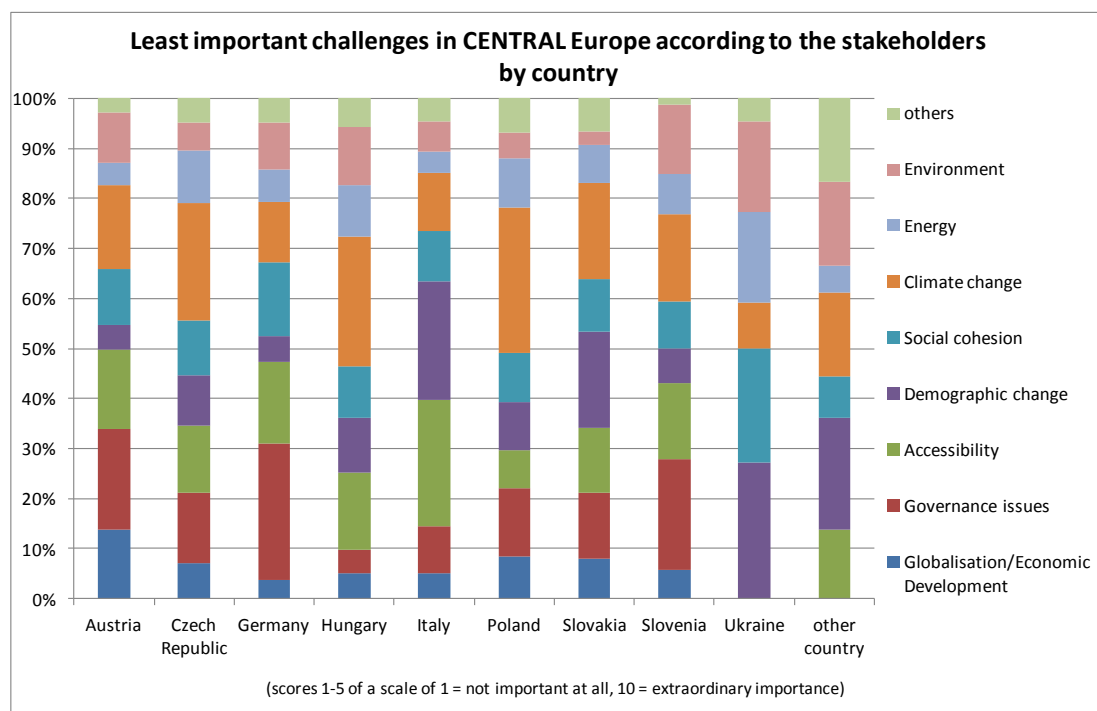


Figure 18: Least important challenges in CENTRAL Europe according to the stakeholders by country



Analysed by stakeholder groups (Figure 16 and Figure 17), the number of participants who checked the highest values 9 and 10 show a more evenly distributed picture:

- ▶ Public authorities rate the 'Environment' challenge higher than the rest.

- ▶ ‘Energy’ and ‘Accessibility’ are most important for private associations and institutions and ‘others’ mostly consisting of private companies.
- ▶ Climate change is the most important challenge for research institutions.
- ▶ Interestingly, ‘Governance issues’ are most important for national authorities as well as for private associations and institutions.

The stakeholder groups who checked the lowest values 1 to 5 show other trends:

- ▶ ‘Climate change’ scores again low in almost all groups.
- ▶ ‘Governance issues are unimportant for ‘other public multipliers’ and ‘others’.
- ▶ ‘Accessibility’ is not of much importance for national authority stakeholders and research institutions.
- ▶ ‘Demographic change’ is less important for research institutions and private associations and institutions

Figure 19: Most important challenges in CENTRAL Europe according to the stakeholders by type of organisation

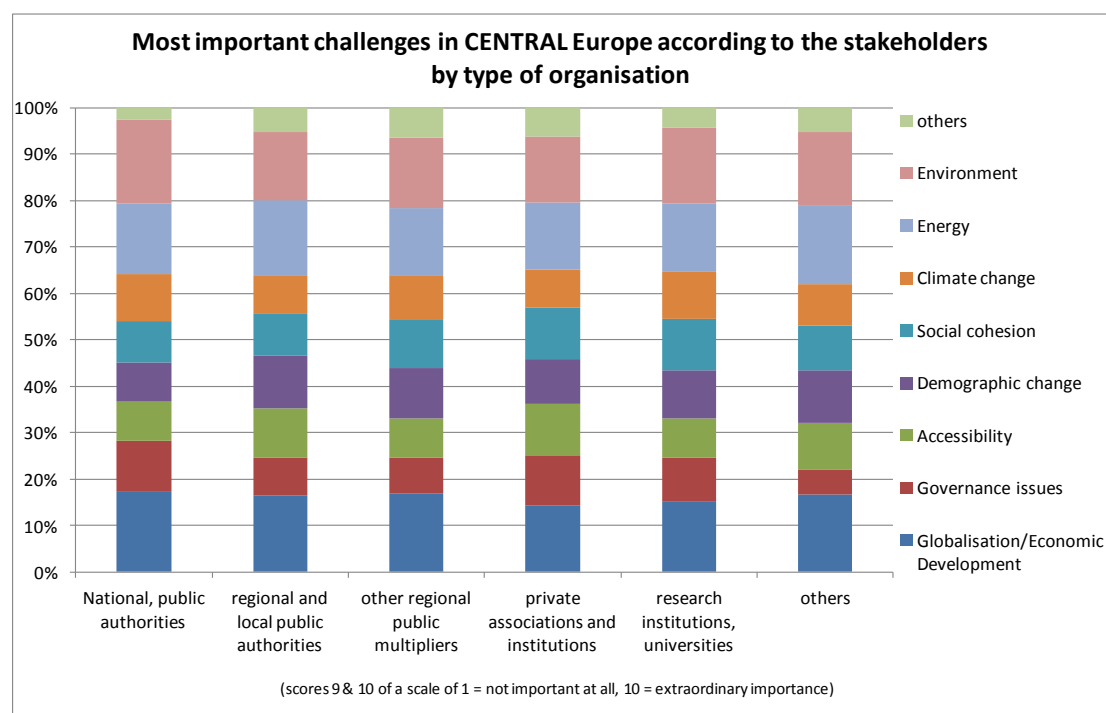
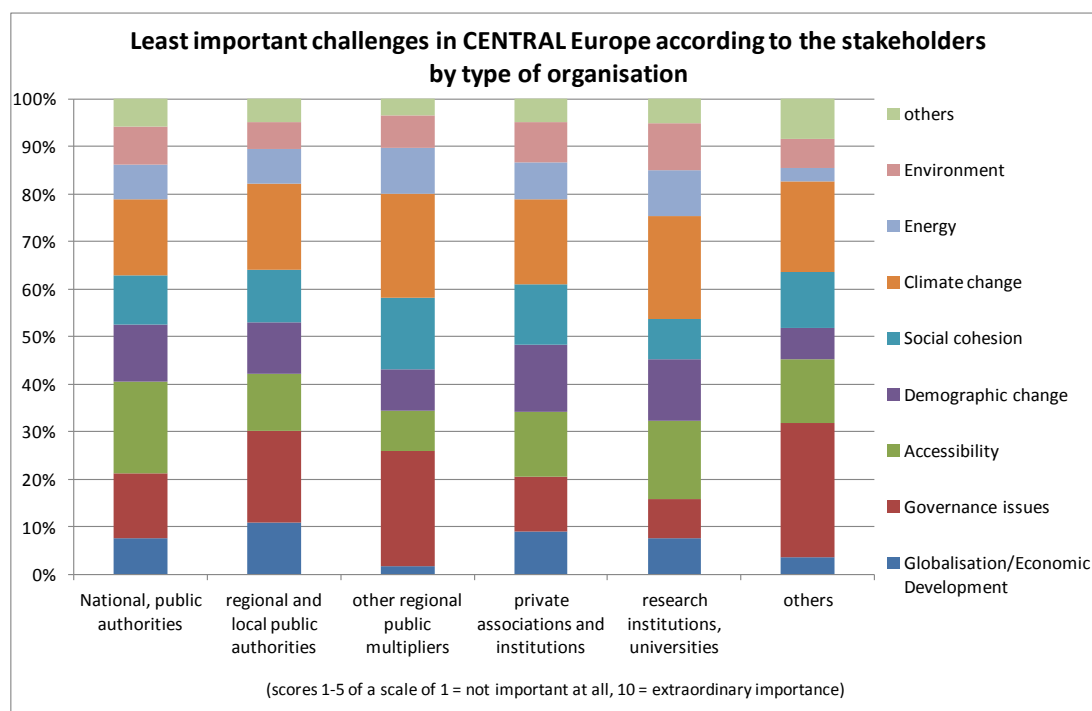


Figure 20: Least important challenges in CENTRAL Europe according to the stakeholders by type of organisation

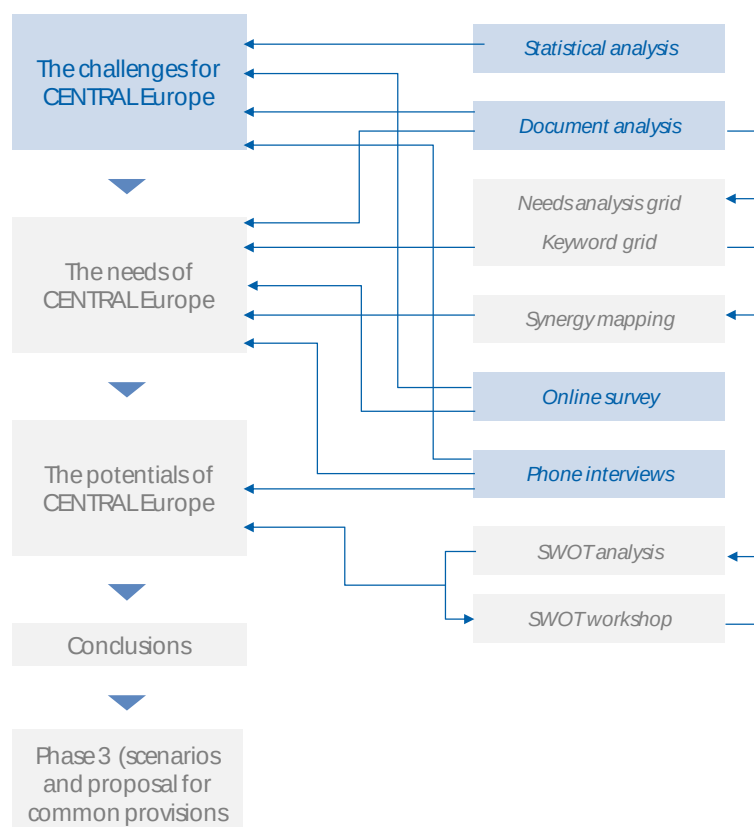


2.3 A summary of the main challenges

The analysis of challenges for CENTRAL EUROPE brings together an analysis based on statistical data and documents with that of an online survey (cf. Figure 21).

A particular characteristic of CENTRAL EUROPE is the significant variation in its spatial structure. No other transnational programming area of Europe is as varied in terms of its technical and social infrastructure or access to communication. Similar discrepancies are observed in relation to the Gross Domestic Product and expenditure on research and development in the countries of the region. This wide spatial disparity is primarily the result of the region's pre-existing historical conditions. The second element that distinguishes CENTRAL EUROPE is its geographical location, which underlines its image as the crossroads of Europe. Several important transport and transit routes cross the region from west to east and from north to south. The intelligent and reasonable harnessing of this trait is a vital challenge for development. On the other hand, one adverse phenomenon resulting from the geographical location of the region is the peripheralisation of some areas of CENTRAL EUROPE.

Figure 21: Course of the analysis: elements of the analysis of challenges



The problem of peripheralisation is connected to the process of spatial polarisation, which applies to all of Europe. Dynamic development is, by and large, restricted to

metropolitan areas (e.g. Berlin, Milan, Prague, Budapest, Warsaw), accentuating and deepening the spatial rift between the regions.

In conclusion, the following territorial challenges are the most prominent to be addressed in CENTRAL EUROPE (their order representing the prioritisation from the online survey):

1. Globalisation/Economic Development

- ▶ There is a significantly uneven distribution of GDP per capita: primarily rural regions in Poland, Hungary, the Czech Republic and Slovakia are way behind other regions in CENTRAL EUROPE. This leads to effects such as the depopulation of peripheral areas.
- ▶ There is a low level of research and development activities and competitiveness in general in many regions: The concentration of R&D in only a few growth poles leads to brain drain and deteriorates competitiveness of certain areas.

2. Energy

- ▶ CENTRAL EUROPE is largely dependent on fossil fuels, most of which are imported. Energy production from traditional sources does also cause environmental problems. Gross inland consumption of renewable energy is still at a low level in CENTRAL EUROPE (10 %), displaying the dependence on fossil energy sources.
- ▶ Energy use is still wasteful in the economy and the household sector: More resource efficiency will add to independence from imported fuels, competitiveness and also climate change mitigation.
- ▶ Per capita energy consumption will increase until 2030: Production of renewable energy needs to be increased substantially as well as the national and transnational distribution grids need to be expanded.
- ▶ The development of intelligent energy distribution networks is central for sharing the power generated in different places: While focussing on region-specific strengths, the development of effective pan- and trans-European energy grids is essential to boost the use of renewable energies.

3. Environment

- ▶ The natural and semi-natural environment is endangered: Lack of waste and water treatment, but also insufficient habitat protection threaten the high value of the existing environmental endowments; pressure because of conflicting uses is also widespread.
- ▶ Most of the CE countries decreased their water exploitation between 1990 and 2010: However, water exploitation is still an issue, as some regions show high water dependency and increasing total water abstraction.

- ▶ Wastewater treatment is very important for the preservation of water reserves: Some regions in CE show low waste water treatment capacities (e.g. Northern Italy, Hungary, and some Polish regions).
- ▶ Air quality is a problem in some regions: High levels of yearly average concentration of particular matter can be identified in Poland and Hungary, the Czech Republic as well as in Slovakia. Especially high values of Ozone can be identified in Northern Italian regions.
- ▶ Within the CE area, southern German, Northern Italian and urban regions show high levels of sealed soil: Soil sealing leads to the impairment of ecological soil functions and can lead to a change in water flow patterns and increasing occurrence of floods.

4. Demographic change.

- ▶ Low birth rates and out-migration have contributed to the ageing of population. Especially in peripheral regions this will get a serious problem.
- ▶ Diversity of shrinking and growing regions exists side by side: Shrinking population (1998–2008) is observed within the Eastern part of the Czech Republic and Germany as well as in Hungary, Slovenia, Slovakia and Poland, while immigration leads to a growing population in most of the regions of southern Germany, Italy and Austria.

5. Accessibility

- ▶ Accessibility patterns in CE follow a core-periphery dichotomy: Germany, Austria and Northern Italy are the CE regions with the most significant level of centrality and a high potential in multimodal accessibility, while Poland and Hungary show the greatest level of peripherality.
- ▶ High-quality transport connections are not existent in some, especially rural regions: railway lines get shut down while the road network is often in bad condition. Transnational links are fragmented.
- ▶ New MS are in a catching up process concerning road infrastructure: Parallel to the increase in road accessibility, motorized individual transport is on the rise in the Eastern European countries, while the modal split of public transport is decreasing. Public transport infrastructure needs to be focussed on again.
- ▶ There is a significantly uneven distribution of ICT-availability in CENTRAL EUROPE: Most of the capital regions in CE and the south of Germany boast high levels of high-speed internet connections, whereas rural areas and regions in the New Member States lag behind.

6. Social cohesion

- ▶ There is a significant spatial diversity of income per capita: The low level of this indicator affects primarily rural regions in Poland, Hungary, the Czech Republic and Slovakia.
- ▶ Unemployment is a serious problem in CENTRAL EUROPE: Due to the crisis in Europe, more than 4 million jobs have been lost. Unemployment rates increased massively in some regions, particularly in Italy and Hungary, in other regions, especially Eastern Germany and peripheral regions, structural unemployment rates are very high.
- ▶ Transformation of labour markets due to globalisation/division of labour affects regions differently: Austria, Slovenia, the Czech Republic and Germany are so-called prepared areas, while Northern Italian, Hungarian, Slovakian, Czech and Polish regions are vulnerable and Eastern Hungarian, Eastern Slovakian and Western Polish regions show the highest vulnerability concerning labour market transformations. People's engagement in lifelong learning and greater expenditures in research and development may increase regional adaptive capacity.
- ▶ There is a clear east-west divide in social services (health, children, elderly): New Member States show lower expenditures for elderly care and child care as well as fewer doctors and therefore provide less regional access to utilities and services.
- ▶ Educational levels and quality varies greatly over CENTRAL EUROPE: raising the education levels and lifelong learning participation rates will be the prerequisite to competitiveness within the EU and globally.

7. Governance issues

- ▶ The level of cooperation between public entities and public participation needs to be improved.
- ▶ Introduction of e-administration: Traditional administration is accompanied by e-administration (online service component, human capital component, telecommunication infrastructure component) in some regions but still needs to be improved.

8. Climate change

- ▶ Climate change will probably demand adaptive measures in some regions and sectors: In the region of CENTRAL EUROPE the vegetative period will extend and extreme events such as droughts, heat waves, floods, storms, mass movements etc. will occur more often. Floods as the main natural hazard occurring in the CENTRAL EUROPE area will probably become the most serious challenge.

- ▶ There will be an increase in mean and maximum temperatures: A strong increase of the number of tropical nights is expected in Slovenian, Hungarian and Slovakian regions. The impact on cities (due to soil sealing and less vegetation) will be more severe than in rural areas.
- ▶ Climate change will have an effect on different economic sectors: The Czech Republic, Austria and Slovakia are most vulnerable to water dependency (e.g. hydro power); Southern and Eastern European regions are most affected in agriculture and forestry as well as in summer tourism.

In the next step of the analysis, these challenges will be addressed by specific needs that have been collected from strategic documents and stakeholders of CENTRAL EUROPE.

3. The needs within the CENTRAL area

Two main sources were used to identify the existing needs: Strategic documents (e.g. programming documents, policy papers, etc.) that already analysed the needs in their area and identified them clearly as well as the stakeholders' view that was gathered by an online survey and additional interviews. The following chapters describe the results of both approaches and provide a concluding overview taking both sources into account.

3.1 Analysis of the relevant strategic documents

The document analysis is based on the investigation of 183 relevant strategic documents identified by the geographical experts and the Steering Group. This variety of documents – tackling heterogeneous issues and challenges – was analysed by using a needs analysis grid, a keyword grid and a synergy map. This structured bundling of information enabled to identify those needs which are an issue for the CENTRAL EUROPE area respectively the majority of regions (Details of the methodology are described in chapter 1).

Out of the 183 documents the needs analysis grid results in a list of 51 keywords describing groups of main potential needs in the regions. (The keywords include more general bundles of needs as well as already more detailed descriptions. The fine tuning of these different approaches is subject to the next step.)

A relevance check for each region and member state within the CENTRAL area described whether an identified keyword describing a group of needs is relevant for a region. For each country as well as for the complete CENTRAL EUROPE area the percentage of regions for which the identified needs were relevant was analysed, allowing a first impression about the relevance of the different needs in the regions of the CENTRAL area. The analysis for the complete CENTRAL EUROPE area illustrates, that ten issues are very interesting and important for more than 60% of the regions involved within the CENTRAL EUROPE area.

Being mentioned in 81% of the regions, research, technology and innovation is the second highest ranking bundle of needs. Other economic topics, e.g. the competitiveness on regional and national level (73%) and the orientation on SMEs (networks, clusters) (69%) are also at a high priority in many regions. More specified needs as e.g. sustainable development & innovative technologies are at least on the agenda in 43% of the regions. This shows very clearly that economic development has a strong focus in the regions of the CENTRAL area when analyzing its relevant needs. A special focus is thereby on the need for research, technology and innovation and SMEs.

Another very important need in 87% of the regions is the use of renewable energy sources. Even if other energy issues as e.g. energy efficiency, energy innovation (eco-/energy-technologies) and increasing energy demand are in much less regions (44%, resp. 39% and 27%) of importance it makes clear that the use of renewable energy sources will be very crucial in the future of the region whereas other aspects of energy production and consumption patterns are not so high in the focus up to now.

The protection of the environment is also an important topic throughout most regions in the CENTRAL area (79%). This picture of the importance of environmental issues becomes even stronger, when looking at more specified keywords describing the needs: Natural hazards and protection against natural disasters are relevant in 59% resp. 57% of the regions (ranking at 10 and 12 out of 51 keywords). The sustainable use of resources is seen as an important issue in 57% of the regions. Also ensuring water-, air- and soil-quality and the reduction of pollution/antipollution measures are important issues in about half of the regions.

In terms of governance aspects, cooperation between communities as well as on an interregional level is identified as a need in 71% of the regions (rank 4). Additionally, the need to develop networks is considered of importance in 54% of the regions (rank 15). Other governance aspects as e.g. an efficient public administration (27%), regional governance (23%) and e-government (20%) are of relevance only in a few regions. This result can support the idea of encouraging cooperation through the transnational program. It shows also, that other typical governance topics have no broad relevance in the CENTRAL area.

The need to deal with the ageing society is seen as a crucial issue in 70% of the regions (rank 5 in the keyword grid). Another relevant aspect of demographic development is migration, with which more than half of the regions are dealing (59%, rank 10). Looking into detail the need to react on population development is split in the regions of the CENTRAL area: 30% need to deal with shrinking, 26% with growing population.

Concerning the needs related to social capital and employment education, skills and lifelong learning is ranked highest (6th) and an issue in 69% of the regions. Also the need to react on European integration (mobility of workforce and capital; interface to EU enlargement area) is a great topic in the area touching 60% of the regions (rank 9). This makes clear that the labor market development is still a topic the regions are concerned about.

Accessibility and mobility covers another strong bundle of needs, even if it is not a priority in all regions. The need to improve the accessibility is a topic in 63% of the regions (rank 8 in the keyword grid), and to deal with the increasing mobility in 57%. (rank 12). Especially the need to enhance inter-modal/multi-modal mobility

solutions is relevant in 53% of the regions. The reduction of regional mobility disparities is mentioned in 41%.

The following table shows in detail the relevance of the most important needs in the regions of the CENTRAL area.

Table 10: Important bundles of needs within the regions of the CENTRAL EUROPE area

Keyword describing a bundle of needs	percentage of regions with relevance of the group of needs	rank
Use of renewable energy sources	87%	1
Research, technology and innovation	81%	2
Protection of the environment	79%	3
Competitiveness (regional and national)	73%	4
Cooperation (communities, interregional, ...)	71%	5
Ageing society	70%	6
Education, skills and lifelong learning	69%	7
Orientation on SMEs (networks, clusters)	69%	7
Improvements in accessibility	63%	9
European integration (mobility of workforce and capital; interface to EU enlargement area)	60%	10
Migration	59%	11
Natural hazards	59%	11
Increasing mobility	57%	13
Protection against natural disasters	57%	13
Sustainable use of natural resources	57%	13
Development of networks	54%	16
Ensuring water-, air- and soil-quality	54%	16
Inter-modal/multi-modal mobility solutions	53%	18
Deficits in accessibility	51%	19
Reduction of CO ₂ emissions	49%	20
Reduction of pollution/antipollution measures	49%	20
Social diversity/polarisation	49%	20

Source: 183 analysed strategic documents

The following spider graphs show summarised for all regions of CENTRAL EUROPE area and for each member state the relevance of the different bundle of needs described as keywords in the regions. (The percentage shows in how many regions the need is seen as relevant according to the strategic documents analysed.)

The pictures below show very clearly that the strategic documents in the different countries see the needs within their regions quite differently. For example for

Poland the second most important issue is climate change and temperature increase (94%), also migration is located in the top rank and represents an important issue for 57% of the Polish regions which are involved in the CENTRAL EUROPE area. If we compare this result with German regions, temperature increase is only important for 44% of the regions; the issue of migration is valued with merely 11%. Although, both countries valued the use of renewable energy sources with 100% coming along with the general CENTRAL EUROPE result.

Between the countries Austria, the Czech Republic and Italy a partly similar valuation of needs can be identified. For all of the three countries, research, technology and innovation is the most important issue (90%/100%). Education, skills and lifelong learning are valued very highly as well (70 – 89%). Only within the issue of regional and national competitiveness, differences are noticeable, as the Czech Republic values this topic with merely 56%, but Italy and Austria both value this issue with 80%. Another controversial issue are inter-modal/multi-modal mobility solutions. Especially in the Czech Republic this issue is one of the important topics (with 100% achievement), whereas in Austria this issue is not a topic at all (0%) and Italy only values this need with 60%.

Another example is aging society. According to the analysis of the strategic documents it is very relevant in regions of Germany, Hungary, Slovakia and Slovenia (up to 100%), whereas in counties like Poland, Austria, Italy and the Czech Republic in much fewer regions this is seen as important need. Other topics, as e.g. the use of renewable sources is a core issue in the regions of most countries.

When looking at the aggregated picture of the needs of CENTAL Europe, most of the territorial challenges – as depicted by the needs – are broadly covered with the same intensity (e.g. globalisation, environment, accessibility). These needs are all relatively highly ranked in all CE regions.

Energy, demographic change and governance are providing a less homogenous picture with respect to the needs incorporated:

- ▶ “Institutional capacity” is for instance ranked relatively low, while “cooperation” is deemed as highly relevant.
- ▶ The “use of renewable energy resources” is regarded as one of the most important needs, while “capacity shortage and rising prices” are of low relevance within the CE area.

What becomes apparent is the fact that the strategy documents show a good awareness of the challenges in the regions as the prioritisation of the needs are accurate answers to the challenges identified.

Figure 22: Needs of CENTRAL Europe: keywords in strategic documents

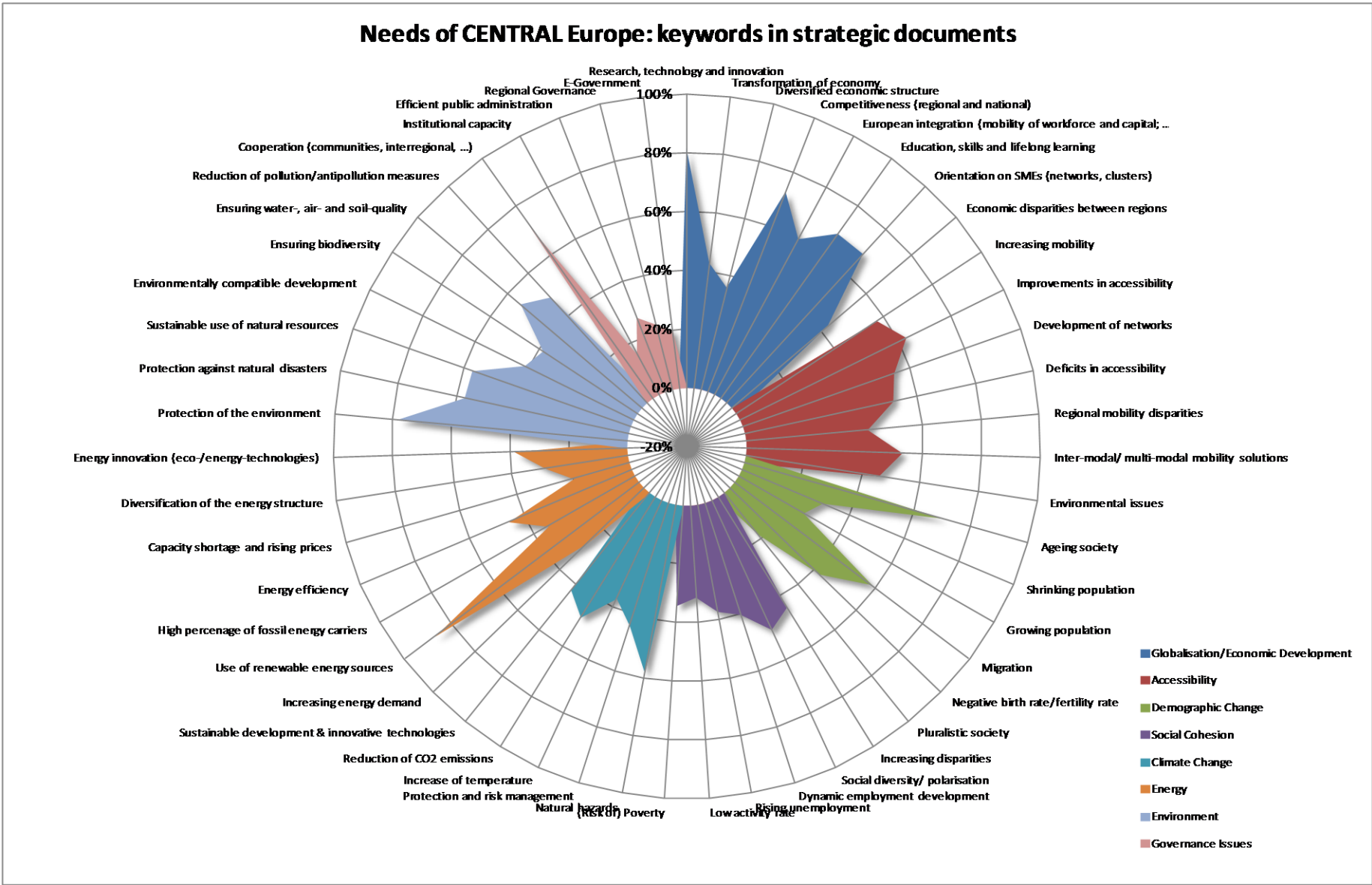
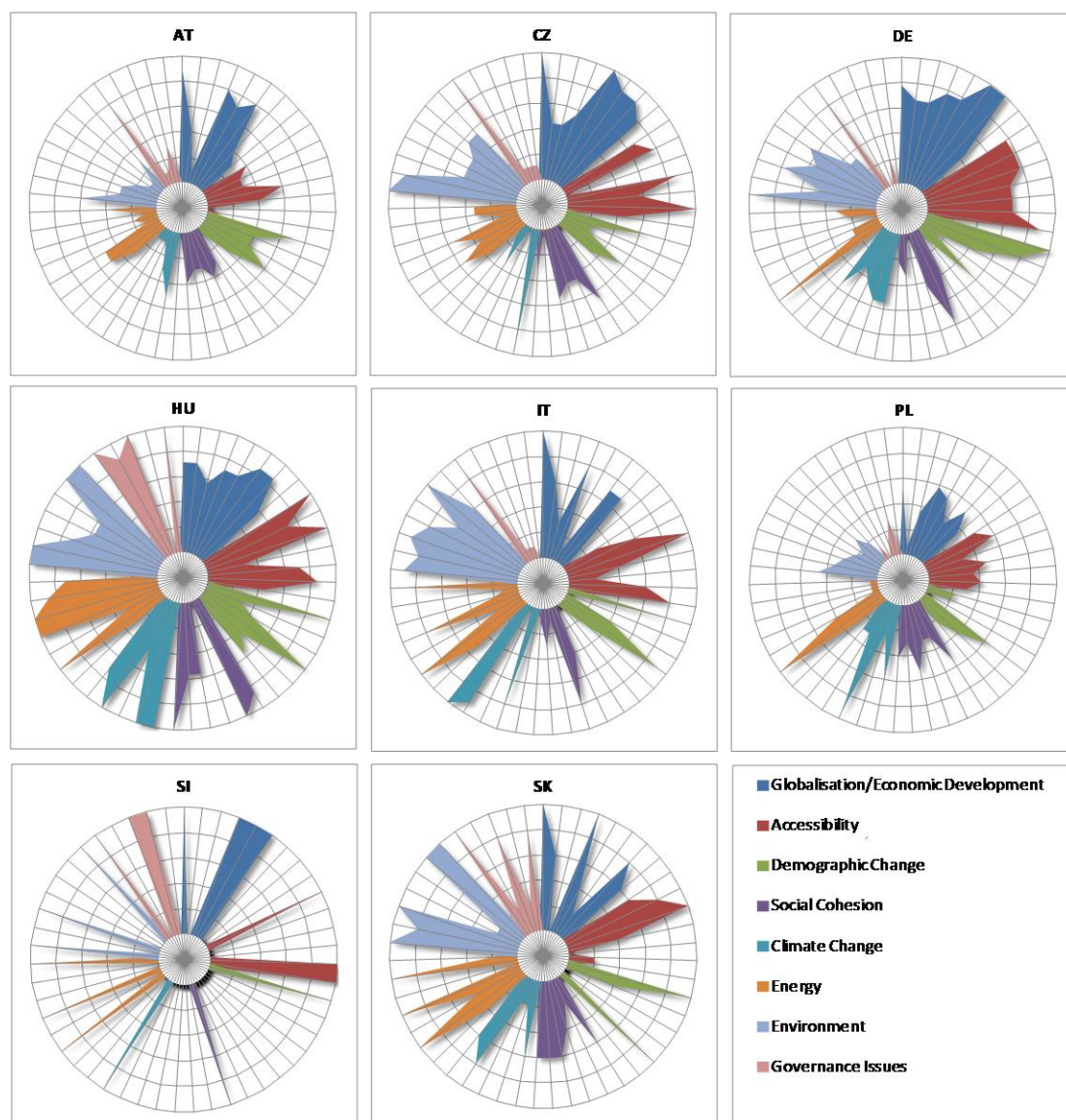


Figure 23: Needs of CENTRAL Europe: keywords in strategic documents by country



The results of this first analysis of bundles of needs grouped along the keywords was analysed more in depth by using the tool of a synergy map. This helped to bundle, cluster and categorize similar needs on one hand and on the other hand to split group of needs into single needs in order to get a more differentiated picture of the situation in the CENTRAL area.

This enabled finally to group the needs along the 11 thematic objectives as laid down in the Regulations (A 12th category “others” was added, as some of the needs identified could not directly be linked to the 11 categories. These needs can be summarized under the topic of urban and rural development).

Finally, based on the analysis of the strategic documents, 74 relevant needs in the CENTRAL area were identified, that have to be tackled in the SWOT analysis and the next steps in the programming process:

- ▶ Research, technological development and innovation
 - Regional economic specialisation: Economic management of regions, development of major research centres (technologically demanding segments and market niches) and regional circular economies are important issues. Regions with a high concentration of creative and cultural industries show Europe's highest prosperity levels.
 - Innovation and R&D: The level of R&D (insufficient technology transfer in some regions), co-operations between science and economy/research and development organisations, universities and business need to be improved. Other issues are the building up of partnerships, networks and clusters as well as the promotion of an innovative and attractive investment climate. Disperse production systems are increasing the demand for logistics, ordering and controlling systems.
- ▶ Enhancing access to and use and quality of ICT
 - ICT-infrastructure: The access to high-speed internet and the development of IT (adaption) in general is needed to tackle sectoral and spatial inequalities.
- ▶ Competitiveness of SMEs
 - Networks and SMEs: The increasing embeddedness of regions into global capital flows, the permanent pressure for businesses to grow and to network demand the improvement of industrial networks, an increase in the competitiveness of SMEs and the opportunity of modernisation of existing industries.
 - Labour market innovation: There is a need for increasing numbers of "green" employment forms, creative industries and co-operative SMEs (clusters, networks).
- ▶ Low-carbon economy in all sectors
 - Agriculture: Support of sustainable agricultural activities and of organic farming is needed as well as the modernisation of agriculture.
 - Renewable Energy: The existing high level of experience available within the CENTRAL EUROPE area as well as the good producing opportunities should be used for an increase of geothermic energy and biomass production.
 - Energy efficient transportation: Efforts to decarbonise the electricity and the transport sector as well as reducing the energy intensity of transport are needed as well as the support of the use of low-emission vehicles on alternative propulsion.

- New technologies against air pollution: The utilisation of progressive technologies in SMEs should be boosted to prevent the area from atmosphere pollution.
- ▶ Climate change adaptation, risk prevention and management
 - Aridity & Desertification: The on-going desertification and increasing danger of aridity requires the transformation of water management systems. Especially activities such as agriculture, fisheries, forestry, energy production and tourism have been identified as most affected.
 - Natural hazards: The severe impact of climate change on parts of the CENTRAL EUROPE area and the increase of extreme weather events such as floods and storms, which may damage the infrastructure and set back the regional development, call for adaptation and risk prevention mechanisms.
 - Retention capacity: As part of a better risk management concerning floods, the retention capacities of landscapes need to be increased.
- ▶ Environment and resource efficiency
 - Interconnection of energy-markets: National and international co-operation concerning energy markets and the decentralised production of electricity and energy are needed.
 - Energy efficiency: In light of the Europe2020 strategy the energy efficiency, especially in new member states and candidate countries, needs to be improved; in addition, it is important to improve the efficiency of the hydroelectric system.
 - Energy efficiency in public buildings: Energy self-sufficiency for public buildings and new constructions as well as the maximisation of heat-energy savings need to be promoted.
 - Electricity corridors: There's a need for additional energy infrastructure, energy routes and power lines. Energy corridors should combine different kinds of infrastructure.
 - Sustainable use of environmental resources: Especially natural resources, but also social and economic resources need to be carefully used to contain an intact environment.
 - Strategies for land use: Strategies for land use in the environmental field need to be formulated, fostering the identification of areas of high ecological value and the effective use of space.
 - Reduction of land consumption: The increasing consumption of land needs to be slowed down and further landscape fragmentation (through infrastructure and transport corridors) needs to be prevented.
 - Polycentric development: Decentralised concentrations, multifunctional rural areas and the polycentric development of regions should be promoted. In some regions, the tightening of contrast between rural areas and urban areas is expected, increasing the potentials of better accessible

core regions and weakening the development options of more peripheral ones.

- Brown field development: Brownfields and deprived areas should be revitalised (e.g. redevelopment of inner-city industrial areas) to reduce land consumption.
 - Urban environment: Urban centres suffering from poor air quality and ozone concentrations are in the need of an increase in the number of open/green spaces.
 - Nature & Tourism: Connections between nature conservancy, agriculture and tourism need to be promoted as well as the introduction of an ecologically sustainable fashion of tourism.
 - Networks for ecosystems: There is a need for the establishment of a network of large and small areas of ecosystems, left to natural development.
 - Water quality (lakes, rivers): Due to organic, nutrient and hazardous substances pollution as well as hydro morphological alterations of rivers and lakes, the eutrophication of lakes needs to be improved and the water balance needs to be stabilised.
 - Environmental infrastructure: The technical improvement of environmental infrastructure and aquatic ecosystems represent an important need.
 - Waste disposal: High and constantly increasing amounts of waste require actions to reduce waste production and improved waste disposal.
 - Sewage and drinking water management: Deficits in water management (concerning storage and protection) need to be resolved.
 - Industrial risk management: Actions concerning the danger of environmental risk sites (to environment and citizens) are needed.
 - Protection of ecological diversity: The richness and ecological diversity of landscapes as well as sensitive areas and locations need to be protected. There is a constant danger of fragmentation, loss and diminishing diversity of natural areas.
 - Evaluation of impacts on nature: A methodology concerning the evaluation of the impact on natural environment needs to be developed.
 - Environmental education: There is a need to increase environmental education and in further consequence the implementation of the principles and topics of sustainable development into all levels of education.
- Sustainable transport and key network infrastructures
- Sustainable transport: There's a need to promote environmentally friendly modes of transportation, including public transport in a sustainable and eco-friendly way.
 - Infrastructure in marginalised areas: In sparsely populated areas alternative transport services need to be provided, as there is decreasing ridership in regional public transport (due to demographic change).

- Infrastructure of regional significance: The reduction of differences in regional accessibilities, modernisation of equipment and the availability of long-distance transportation possibilities/options are important issues.
 - Regional railway upgrade: Improvements of railway services and an adequate rail network within the CENTRAL EUROPE area are needed.
 - Local transport infrastructure: An integrated transport system with optimised regional and local accessibility and minimised costs needs to be established. Local and region centres require an increase in accessibility (quality of road network, public transportation), the development of missing road links and the modernisation of transport connections.
 - Multi-modal systems: Intelligent transport systems with sustainable forms of mobility are needed.
 - Framework for infrastructure development: There's a need for a more effective strategic planning of transport infrastructure.
 - Regional disparities: There's a need to tackle disparities of accessibility, especially for peripheral marginalised areas or regions with specific site characteristics (such as valleys in combination with pollution issues).
 - Rural road networks: Infrastructure in the field of the rural and forestry sectors needs to be improved and developed.
- Employment and labour mobility
- The specific geopolitical situations for some regions after the EU-enlargement process (benefits/boost of internationalisation) and cross-border connection potentials (especially for macro-regional strategies) need to be taken into account.
 - Location factors: The use of endogenous development potentials (in rural areas), cultural and natural values and the definition of economic and natural diversity as regional strengths are needed to answer new expectations to locations.
 - Tourism: Due to the specific economic potentials of tourism, the development of rural tourism, tourism innovations and specific market niches (sport/congress tourism, cultural tourism, rural tourism ...) need to be promoted.
 - Labour flexibilisation: Alternative employment forms need to be supported, a more flexible labour law developed and labour force excluded from the labour market needs to be activated.
 - Dynamic Employment Development: Increasing flexibility, adaptability and the dynamic development of employment in general needs to be taken into account.
 - Rising unemployment: Measures have to be taken against increasing figures of unemployment, especially youth unemployment.
 - Labour market: Improvements of the labour market, new gained quality, opportunities and co-operation need to be promoted.

- Low Activity Rate: Measures against low activity rates, especially in regions challenged by phenomena of shrinking and ageing need to be taken.
- Labour market competition: The increasing competition between regions generates new demands for locations as well as new challenges for the regional labour market and training systems.
- ▶ **Social inclusion and combating poverty**
 - Existing economic disparities within the CENTRAL EUROPE area, especially along the former “Iron Curtain”, along the eastern external border of the EU and internal regional disparities need to be combated.
 - Ageing: Shifts in consumption patterns, consequences for the labour force and the productivity as well as massive effects on the employment market need to be dealt with.
 - Social security system: Integrated systems of social assistance, the guaranteed access to certain public services and the modernisation of social institutions are necessary. This needs an increase in efficiency, social integration and co-operative networks.
 - Healthy lifestyle/Health: A healthy lifestyle of the population needs to be secured and the efficiency of the healthcare system improved.
 - Public services: Major and increasing gaps in the quality and physical conditions of public services need to be dealt with.
 - Public service maintenance: The challenge of providing and securing local and regional basic services such as the public transportation, the education system, the social infrastructure and the labour market needs to be dealt with.
 - Brain Drain in peripheral regions: Measures have to be taken against the trend of depopulation tendencies in peripheral regions as well as the tendency of young people moving away. The fact of regions losing their future potentials of know-how and highly educated employees needs to be dealt with.
 - Costs of service provision (due to population in- or decrease): Basic services need to be adapted to the trends of increasing population in growing versus decreasing population in shrinking regions.
 - Childcare: The increasing number of single mothers calls for the improvement of the number of childcare services.
 - Poverty: Increasing figures of poverty as well as the increasing risk of poverty need to be taken into account.
 - Housing: There’s a need to improve housing conditions and regenerations of prefabricated housing estates.
 - Social Diversity/Polarisation: Segregation within the Central European society (due to socioeconomic factors) needs to be reduced.

- Increasing Disparities: The differentiated regional developments (differences between East and West/“old” & “new” MS) need to be approximated.
- Equal opportunities: There’s a need for essential interventions of the public sector to prevent the CENTRAL EUROPE area from spatial polarisation and to ensure respect for gender equality.
- Ethnic and linguistic Minorities: Employment, education and integration issues of ethnicities, minorities and diversified cultures need to be taken into account.
- Security: The improvement of border’s security as well as the increase of social cohesion through higher security levels is needed.
- ▶ Education, skills and lifelong learning
 - Qualification: A more qualified and flexible workforce as well as the increasing participation in education – especially of female population is needed. In general the level of education is increasing, although some regions of the CENTRAL EUROPE area show large deficits. Lifelong learning and lifelong guidance are identified as issues able to activate employees and to guarantee an inclusive labour market.
- ▶ Institutional capacity and efficient public administration
 - Existing differences between the member states concerning democracy, political stability and the rule of law need to be overcome.
 - Multi-level governance: The variety of administrative systems requires multi-level governance which can connect top-down and bottom-up initiatives; therefore a cross-sectoral approach is needed.
 - Efficient public administration/legal provision of finance: A more efficient and less costly state (increasing the state’s institutional competitiveness and efficiency), the reduction of the governmental budget deficits are demanded as well as a fiscal reform and more liberalisation and deregulation.
 - E-government, institutional capacity: Self-government administration, the development and support of the activities of NGOs, the creation of new local institutions and the activation of the population are important issues.
 - Co-operation issues: Co-operations on institutional, political and administrative level as well as co-operations between cities or public-private partnerships are identified as important to stimulate thematic or regional clusters and innovation.
- ▶ Others (urban and rural development)
 - Spatial functions: Spatial sharing of functions between the regions and the fact, that different regions have different functions/roles within the country/the whole CENTRAL EUROPE area need to be taken into account.

- Suburbanisation: The negative impacts of suburbanisation and the phenomenon of the existence of shrinking and growing population development side by side need to be tackled.

This analysis of the needs deriving from the strategic documents is further combined with the results from the online survey and the interviews leading to a common picture of the needs within the area.

3.2 The stakeholders' point of view

The current and future needs are strongly related to the different stakeholder groups in the regions. Consequently, different stakeholders in different regions can have different and even conflicting needs. The information about the different stakeholders and target groups as well as their preference and individual needs can guide the development of the new strategic orientation of transnational cooperation projects in the CENTRAL EUROPE area. This is taken into account, when analysing the relevant needs through the online survey and the interviews with selected experts.

3.2.1 Needs of the CENTRAL area identified in the online survey

From the online survey's participant's point of view, the different needs are relatively evenly distributed. All participants had the possibility of selecting the three most important needs by their opinion.

- ▶ 'Research, technological development and innovation' however are – just like in the analysis of strategic documents – rated highest with 16% of entries.
- ▶ 'Education, skills and lifelong learning', 'competitiveness of SMEs' and 'environment and resource efficiency' each have been rated important by 12% of the participants.
- ▶ 'Sustainable transport and key network infrastructures' and 'employment and labour mobility' scored 11% and 10% respectively.
- ▶ The rest of the needs proposed ('institutional capacity and efficient public administration', 'social inclusion and combating poverty', 'climate change adaptation, risk prevention and management', 'low-carbon economy in all sectors' and 'enhancing access to and use and quality of ICT') are behind with scores only between 3 and 7%.

This is in most aspects in line with the analysis of the strategic documents. However, combating climate change seems to be less important to the stakeholders than one could think from the strategic documents.

Analysed by country, all needs can be found to a certain extent in all parts of the CENTRAL area. The results are similar to the overall average, however there are some highlights:

- ▶ ‘Research, technological development and innovation’ has been rated the no. one need in all countries.
- ▶ In Hungary and Ukraine, ‘Competitiveness of SMEs’ and in the Czech Republic ‘Low-carbon economy in all sectors’ were rated equally important.
- ▶ ‘Low-carbon economy in all sectors’ was at least the third most important need in six countries.
- ▶ Competitiveness of SMEs was at least the third most important need in five countries.
- ▶ ‘Employment and labour mobility’ and ‘Institutional capacity and efficient public administration’ were amongst the three most important needs in four countries.
- ▶ ‘Environment and resource efficiency’, ‘Education, skills and lifelong learning’ and ‘Sustainable transport and key network infrastructures’ have been rated only ninth, tenth or eleventh most important in most of the countries

Figure 24: Needs of CENTRAL EUROPE according to the stakeholders

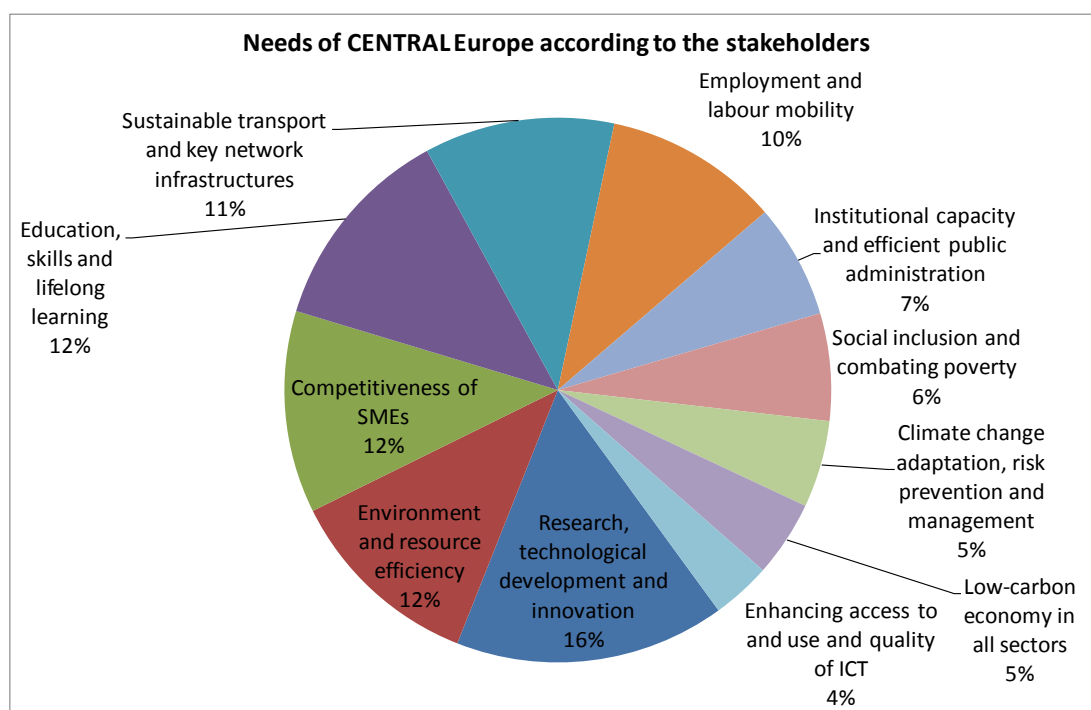
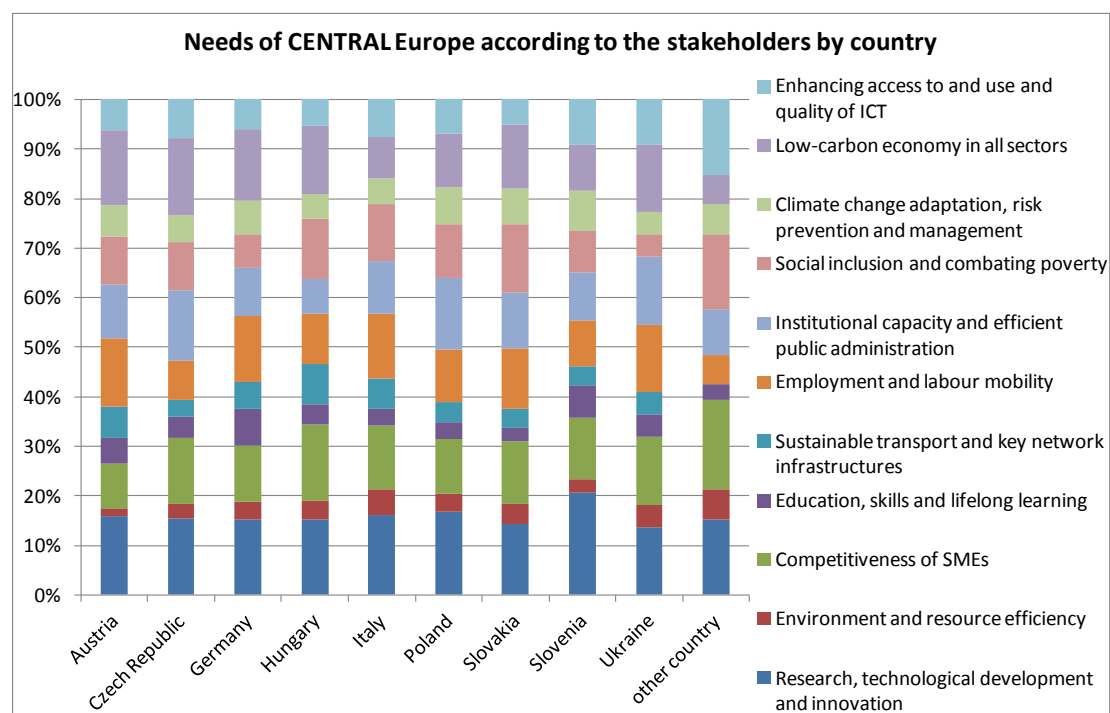


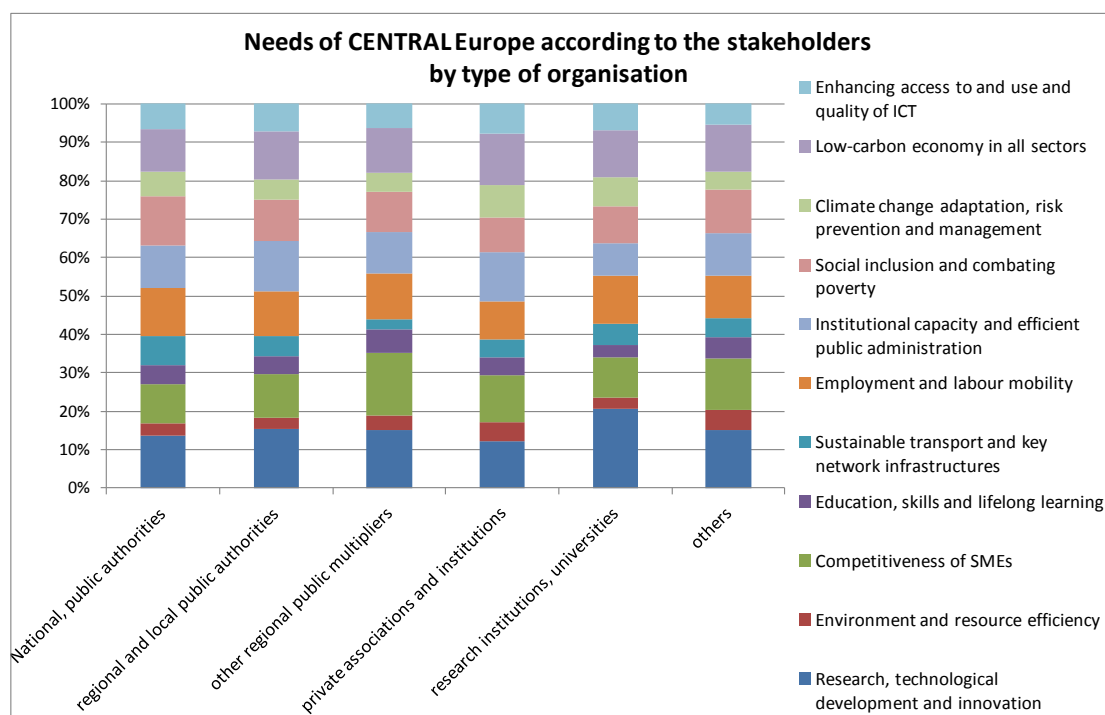
Figure 25: Needs of CENTRAL EUROPE according to the stakeholders by country



By type of organisation, some setting of priorities can be seen (for instance, research institutions think that research is very important, transport is most important for national authorities, SME's for regional public multipliers).

- ▶ 'Research, technological development and innovation' has been rated the no. one need by all types of stakeholders but private associations and institutions (no. 4) and regional public multipliers (no. 2).
- ▶ 'Low-carbon economy in all sectors' was at least third most important need in all stakeholder groups (no. 1 for 'private associations and institutions') except for 'National, public authorities' and 'regional public multipliers'.
- ▶ The least important needs, i.e. they scored a rank only between ninth and eleventh most important, have been 'Environment and resource efficiency', 'Education, skills and lifelong learning', 'Sustainable transport and key network infrastructures' and 'Climate change adaptation, risk prevention and management'. All other needs have been rated at least eighth important need by all stakeholders.

Figure 26: Needs of CENTRAL EUROPE according to the stakeholders by type of organisation

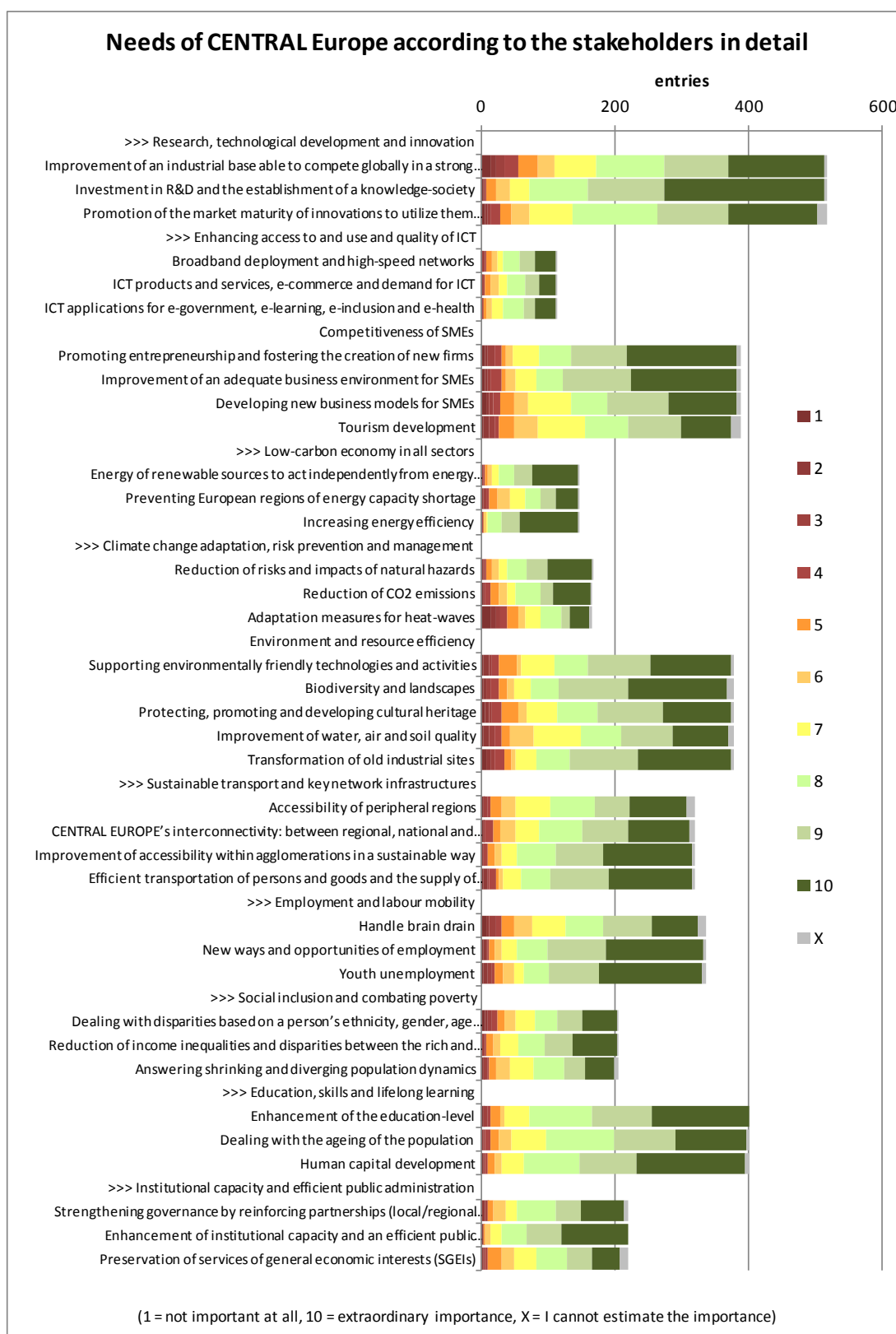


In more detail, sub-needs were questioned again (to obtain information which types would be appreciated most. Generally speaking, in almost all sub-needs high scores between 8 and 9 dominated. This does not come as a surprise, because the participants who gave answers to these sub-needs deemed the overall need already very important. Some details (see Figure 26):

- ▶ In 'Research, technological development and innovation', the topic 'Investment in R&D and the establishment of a knowledge-society' was rated most important followed by 'Promotion of the market maturity of innovations to utilize them economically' and 'Improvement of an industrial base able to compete globally in a strong and sustainable way'.
- ▶ In 'Environment and resource efficiency', all sub-needs 'Supporting environmentally friendly technologies and activities', 'Biodiversity and landscapes', 'Protecting, promoting and developing cultural heritage', 'Improvement of water, air and soil quality' and 'Transformation of old industrial sites' were almost rated equally important.
- ▶ In 'Competitiveness of SMEs', only 'Tourism development' was rated a little less important than the other topics, 'Promoting entrepreneurship and fostering the creation of new firms', 'Improvement of an adequate business environment for SMEs' and 'Developing new business models for SMEs'.
- ▶ In 'Education, skills and lifelong learning', all three topics 'Enhancement of the education-level', 'Dealing with the ageing of the population' and 'Human capital development' have been rated almost equally high.

- ▶ In 'Sustainable transport and key network infrastructures', all five topics 'Accessibility of peripheral regions', 'CENTRAL EUROPE's interconnectivity: between regional, national and international economies', 'Improvement of accessibility within agglomerations in a sustainable way' and 'Efficient transportation of persons and goods and the supply of alternative transportation modes' have been rated almost equally high.
- ▶ In 'Employment and labour mobility', 'New ways and opportunities of employment Youth unemployment' and 'Institutional capacity and efficient public administration' have been in front of 'handle brain drain'.
- ▶ In 'Social inclusion and combating poverty', the topic 'Answering shrinking and diverging population dynamics' was notably lower in score than 'Dealing with disparities based on a person's ethnicity, gender, age group or education' and 'Reduction of income inequalities and disparities between the rich and the poor population'
- ▶ In 'Climate change adaptation, risk prevention and management', 'adaption measures for heatwaves' have clearly been estimated less important than the other topics 'Reduction of risks and impacts of natural hazards' and 'Reduction of CO₂ emissions'.
- ▶ In 'Low-carbon economy in all sectors', 'Energy of renewable sources to act independently from energy imports and increasing prices for fossil energy' and 'Increasing energy efficiency' have been seen notably more important than 'Preventing European regions of energy capacity shortage'.
- ▶ The 'Enhancing access to and use and quality of ICT' topics 'ICT products and services, e-commerce and demand for ICT' and 'ICT applications for e-government, e-learning, e-inclusion and e-health' were rated generally a bit less important, with the exception of 'Broadband deployment and high-speed'.

Figure 27: Needs of CENTRAL EUROPE according to the stakeholders in detail



There was also an optional question offering the possibility of proposing needs that were not or not explicitly addressed in the prepared checkboxes provided. However

there have been a couple of entries that showed up quite often, indicating unfulfilled demands from the stakeholders:

- ▶ Tourism development
- ▶ Rural development
- ▶ The inclusion of cultural activities and affairs
- ▶ The cooperation of the public, private, and non-governmental sectors
- ▶ Integrated urban development
- ▶ Housing quality
- ▶ Spatial planning issues
- ▶ Employment issues for the young and elderly workforce
- ▶ Health topics

Other more singular suggestions owe much to current public discussions, however are worthwhile being listed for thinking outside of the box:

- ▶ Combating corruption
- ▶ Taxation
- ▶ Reduction of bureaucracy
- ▶ Tackling of the Roma issues where applicable
- ▶ Coping with dependence from international financing

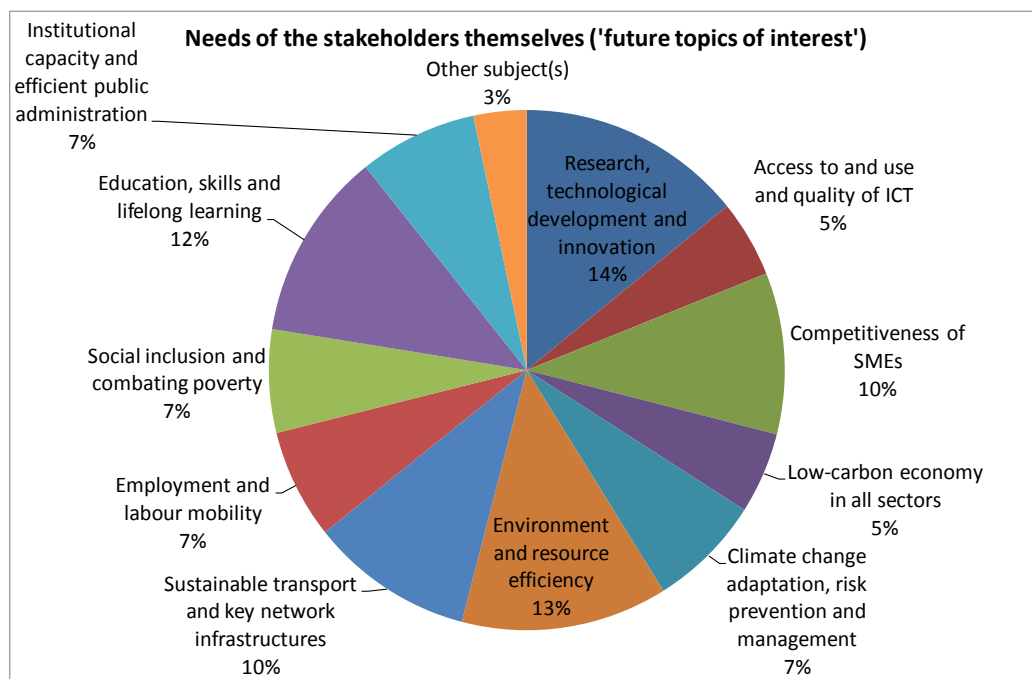
3.2.2 Needs of the stakeholders identified in the online survey ('future topics of interest')

In the online survey, the participants were asked to indicate in which fields of interest they would take part in the upcoming programming period. Apart from being useful as a tool that lets us discover a certain bias in the answers on the more objective needs of CENTRAL EUROPE bias between (e.g. research institutions think that research is the most vital need in CENTRAL EUROPE), the answer to this question gives a hint on the personal needs of the participants and their institutions.

The future topics of interest of the participants are just as evenly distributed as the needs of CENTRAL EUROPE in their opinion. Figure 28 shows that most of the needs score between 7 and 14% of entries whereas research and innovation and environment and resource efficiency take the lead. Only ICT and the low carbon economy are a little behind with only 5% of the participants interested in these topics. Compared to the more objective needs, there is considerable less interest

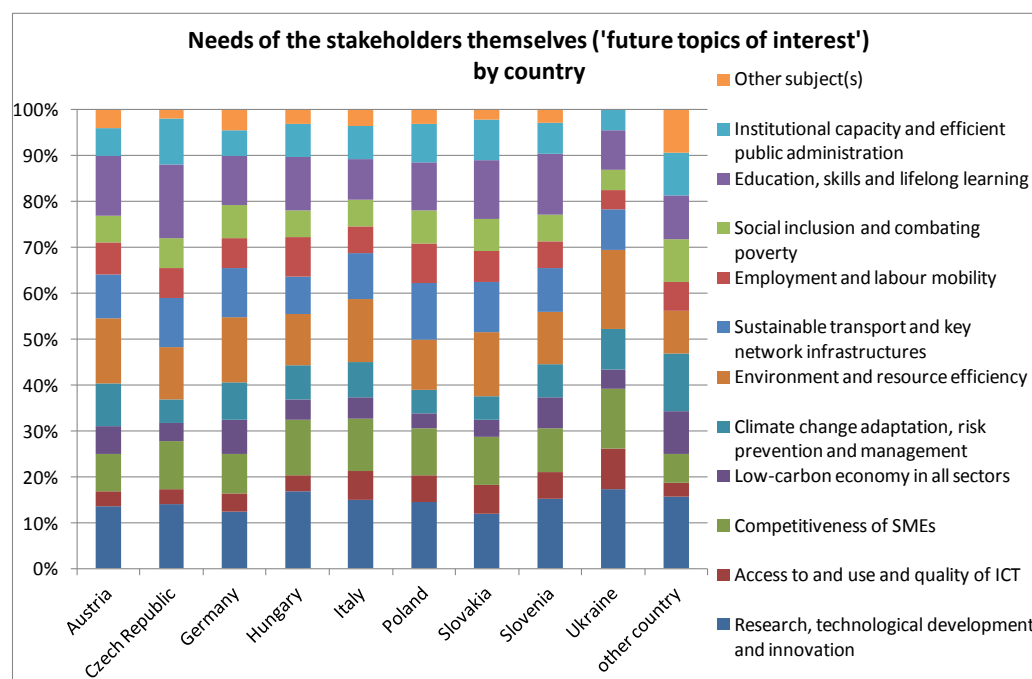
from the participants to take part in projects on employment and labour mobility and considerable more interest in taking part in climate change projects than the needs of CENTRAL EUROPE indicate. Otherwise, most future topics of interest have been quoted almost identical to the objective needs of CENTRAL EUROPE.

Figure 28: Needs of the stakeholders themselves ('future topics of interest')



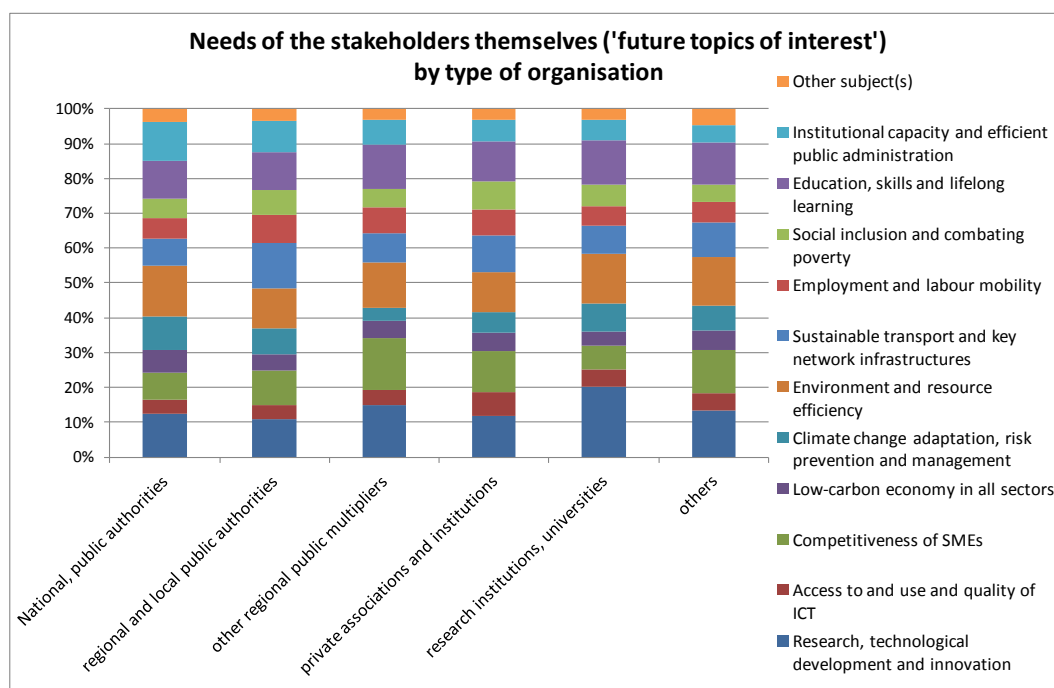
Analysed by country (Figure 29) 'Research, technological development and innovation' is well of below average in Germany and Slovakia. There is instead an above average interest in 'Environment and resource efficiency' and in Slovakia also in 'Enhancing access to and use and quality of ICT'. Other specifics include a very high interest in 'Education, skills and lifelong learning' and 'institutional capacity and efficient public administration' in the Czech Republic, a very high interest in 'Low-carbon economy in all sectors' in Germany' and a high interest in 'Competitiveness of SMEs' in Hungary and Italy.

Figure 29: Needs of the stakeholders themselves ('future topics of interest') by country



By type of organisation (Figure 30), there is of course a certain bias, however not as strong as one might assume. Of course research institutions would mainly take part in research projects, but also very much in environmental projects. 'Institutional capacity and efficient public administration' is, not surprising, very much a topic for the authorities, national and regional themselves. Very interestingly, the topic of 'Sustainable transport and key network infrastructures' is of much more interest for regional and local than national authorities. The 'others' group of stakeholders, that includes to a high extent private economic actors, are higher-than-average interested in 'Competitiveness of SMEs' and 'Education, skills and lifelong learning'.

Figure 30: Needs of the stakeholders themselves ('future topics of interest') by type of organisation



This question was also asked in more detail, i.e. in sub-topics of interest. The most striking results:

- ▶ In 'Research, technological development and innovation', the topic 'Business R&I investment, product and service development, technology transfer, social innovation and public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation' was rated most interesting slightly before 'Research and innovation infrastructure (R&I), developing R&I excellence and promoting centres of competence'.
- ▶ In 'Environment and resource efficiency', the sub-topics 'Protecting biodiversity, soil protection and promoting ecosystem services and green infrastructures' and 'Urban environment, regeneration of brownfield sites and reduction of air pollution' are clearly in front.
- ▶ In 'Sustainable transport and key network infrastructures' the topic 'High quality and interoperable railway system' is way behind the other fields of interest.
- ▶ In 'Employment and labour mobility', 'Local development initiatives and aid for structures providing neighbourhood services to create new jobs' is clearly in front.
- ▶ In 'Social inclusion and combating poverty', the topic 'Physical and economic regeneration of deprived urban and rural communities' is clearly in front.

- ▶ In 'Low-carbon economy in all sectors', 'Smart distribution systems at low voltage levels' and 'Low-carbon strategies for urban areas' are much more interesting than the other sectors.

Returning to the sort of bias that is inherent to the participants of the survey because they stem from a certain background, it is not really the case that they are close-minded. This is, however, also a result of giving the possibility to choose three topics of interest. I.e. besides the 'house' topic the secondary and tertiary topic have been quite evenly distributed:

- ▶ Most of the people who are interested in 'Research, technological development and innovation' do also think it is the most important need in CENTRAL EUROPE.
- ▶ Most of the people who are interested in 'competitiveness of SMEs' do also think it is the most important need in CENTRAL EUROPE.
- ▶ On the other hand, much more people that are interested in 'Climate change' do rather think that 'Employment' and 'Sustainable transport' are a burning needs in CENTRAL EUROPE.
- ▶ The most people who think that climate change is an important need would rather take part in projects on 'Social inclusion and combating poverty'.

Figure 31: Needs of the stakeholders themselves ('future topics of interest') in detail

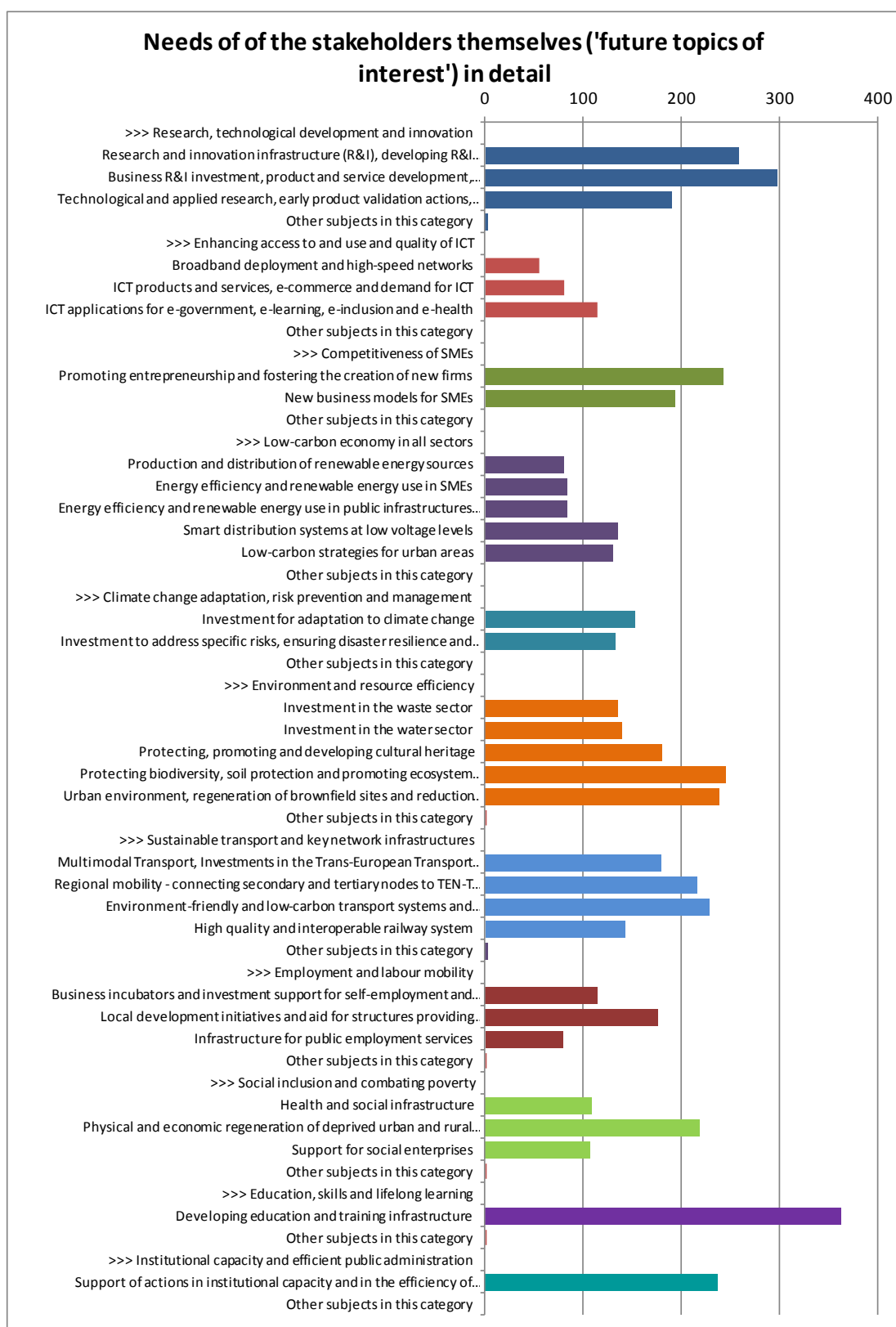
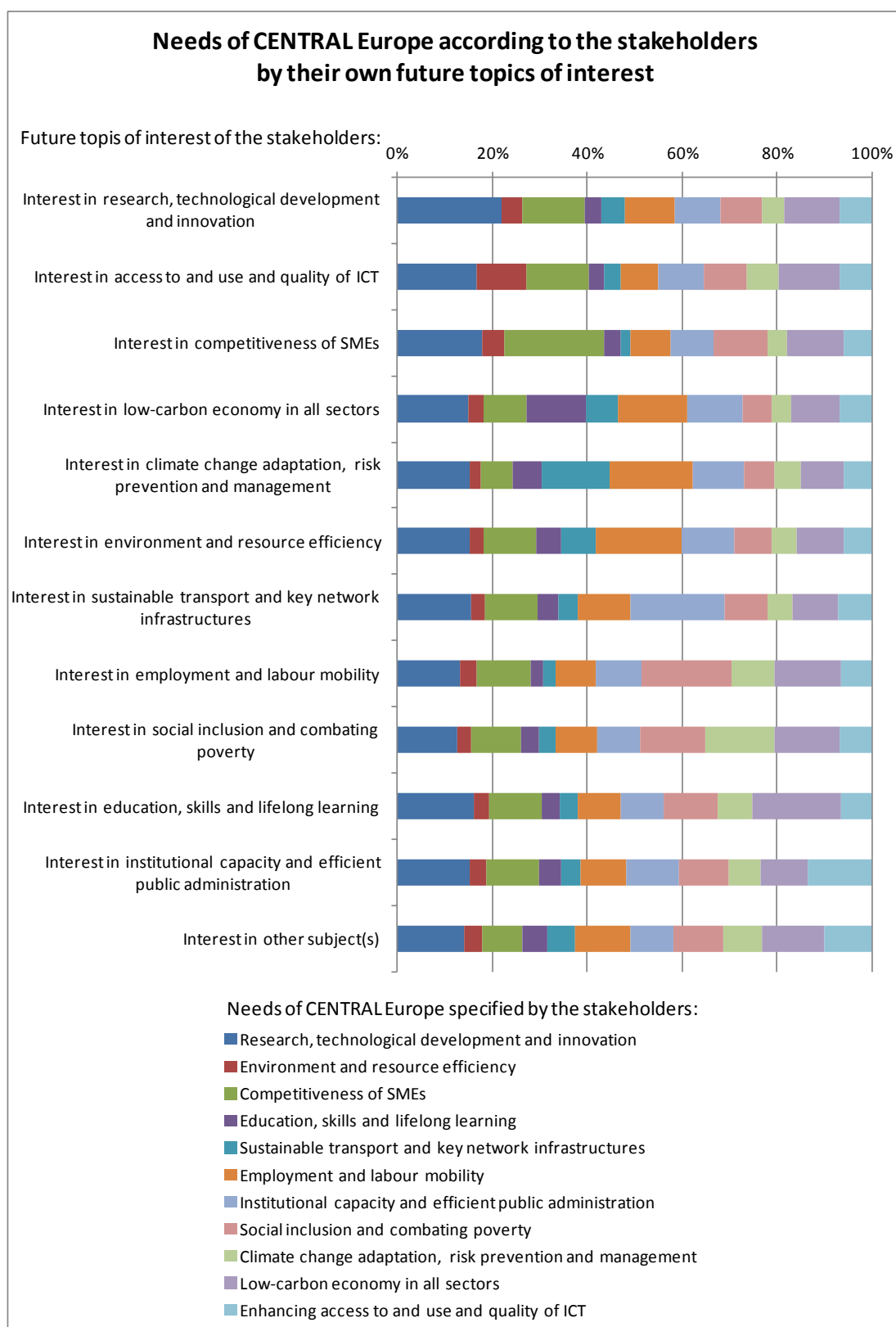


Figure 32: Needs of CENTRAL EUROPE according to the stakeholders by their own future topics of interest



There has been a wide variety of additional topics (possibility to fill in free text) in which the stakeholders themselves would be interested when participating in the next programme. The most frequent and interesting statements were:

- ▶ Research, technological development and innovation, Competitiveness of SMEs:
 - Agriculture and food production
 - Creative industries
 - Financing tools, venture capital for businesses
- ▶ Low-carbon economy in all sectors, Climate change adaptation, risk prevention and management, Environment and resource efficiency:
 - Land use policies
 - Water river basin management
 - Risk management
- ▶ Sustainable transport and key network infrastructures:
 - Urban mobility
 - E-mobility
 - Interoperability of transport systems
- ▶ Employment and labour mobility, Social inclusion and combating poverty:
 - Supporting self-employment
 - Medical services
 - support for disadvantaged and discriminated groups of society
- ▶ Education, skills and lifelong learning:
 - Business/need-oriented education
 - New and more effective teaching methods
 - Life-long learning and training for elder workers
- ▶ Institutional capacity and efficient public administration:
 - Monitoring and measuring the efficiency of the public administration
 - Sharing best practises in administration
 - Development of civil society through better public information

3.2.3 Needs identified during the phone interviews

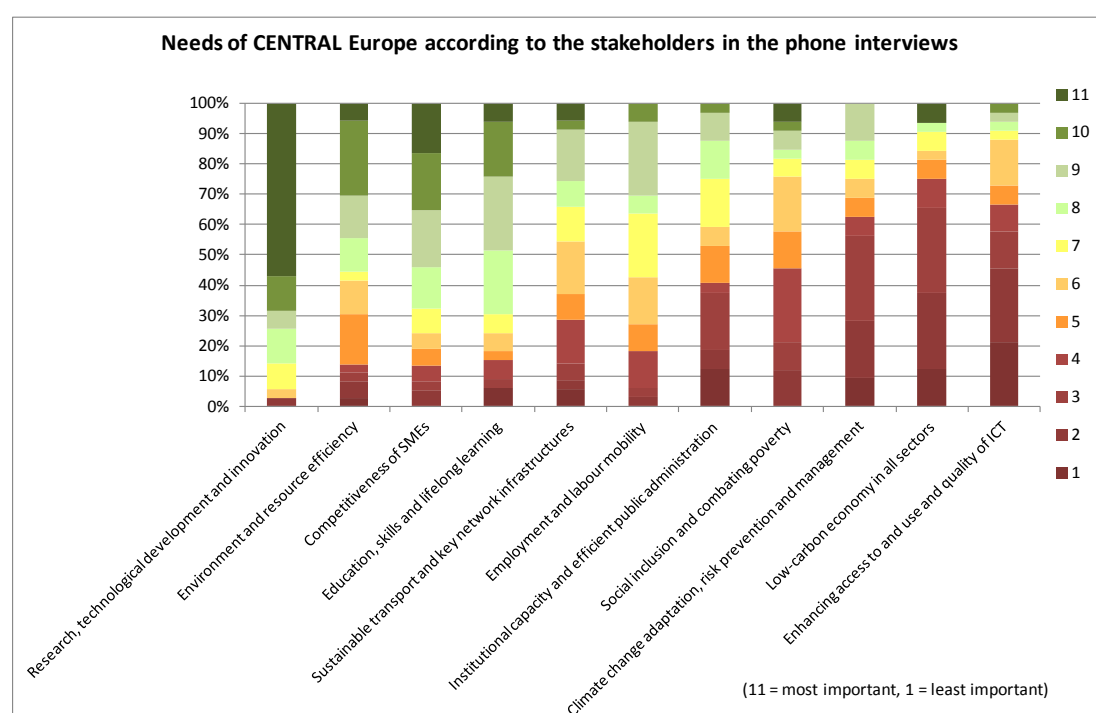
In general, the identified needs and the previous ranking of the needs (based on the results of the on-line survey) have been identified as relevant issues from the interviewees. In most of the cases, the respondents acknowledged the major needs as important issues which are able to mirror the special needs of the CENTRAL EUROPE area in a proper way. The interviewees could identify coherence between the major transnational needs at hand and the national issues and priorities. 21 of the interviewees could share the presented opinion totally and the remaining 13 participants shared the communicated needs widely/partly.

The participating interviewees of the CENTRAL EUROPE survey regarded the issue of “Research, technological development and innovation” as the most important need. The subject of “Competitiveness of SMEs” ranges on rank two, followed by “Education, skills and lifelong learning”. Both subjects show a significant distance to the first ranked topic of “Research, technological development and innovation”, but they can be termed as issues of greater interest.

The topics of “Environment and resource efficiency” as well as “Employment and labour mobility” occupy priority four and five, being located close by. “Sustainable transport and key network infrastructures” remain on rank six, showing a great aberrance especially to the first ranked issues of “Research and education” though not being underestimated in importance (in relation to the following issues of less importance).

On the lower score: “Social inclusion and combating poverty” and “Institutional capacity and efficient public administration”, “Climate change adaption” and “risk prevention and management” do not represent the most important issue within the CENTRAL EUROPE area as well. Quite similarly ranked, ranging on ranks ten and eleven, are the issues of “Enhancing the access to and the use and quality of ICT” and “Low-carbon economy” in all sectors.

Figure 33: Needs in CENTRAL Europe according to the stakeholders in the phone interviews



Note: the predefined scale for the telephone interviews ran from 1 to 11 and thereby differs from the scale used in many questions of the online survey, which ran from 1 to 10.

Some interviewees mentioned the general level of the needs and brought up the highly spatially differentiated relevance of certain needs, even though being interviewed on a transnational programme. For others, differences between the national needs and the ones of whole CENTRAL EUROPE were significant (especially concerning national and transnational issues). Moreover, it was mentioned that all issues and needs should be considered in relation to other problems (e.g. demographic declining regions, poverty).

Concerning the specific issues it seems significant, that the issue of “Research, technological development and innovation” was regarded as an important issue which should be strengthened further (e.g. through networks and transnational programmes). For some of the interviewees, the issue of R&D was a relevant one, even though the ranking seems to be different within the specific region; in addition to it, tight linkages between the subject of R&D and human resources and labour were perceived as relevant from some of the respondents. Especially in Slovakia it was mentioned, that the issue of “Research, technological development and innovation” is the most important need, in addition to “Education, skills and lifelong learning” as well as the subject of “Employment and labour mobility”; these issues represent the complete circle of needs and illustrate a close relationship between the needs.

This leads to the third ranked “Competitiveness of SMEs”, which had been identified as an important issue; furthermore the increasing competitiveness of SMEs should be a natural consequence of investments into “R&D, technological development and innovation”. Comparing the results from the interviews, some national interviewees identified the competitiveness of SMEs as the most relevant issue (for example in Germany), where specifically investments should happen in the future and it was mentioned, that the diversity of SMEs (ranging from micro-scale family enterprises to highly innovative medium firms) should be taken into account as well. For outer regions – which agreed with the first two positions of ranking – the competitiveness is not the relevant issue and does not represent a subject of transnational cooperation.

Due to the general agreement to the ranking of the needs, the topic of “Environment and resource efficiency” has been identified as an important subject, although some interviewees mentioned the rather minor importance of this concern. In general, the issue was not the most discussed topic during the interviews, even though it has been mentioned, that it might be too general as well. In addition it was recognised, that the subject of “Environment and resource efficiency” is not regarded as highly relevant, although the need of a low carbon economy (including renewable energy production as well as energy efficiency in housing) has to be upgraded within the ranking.

Besides these three issues of greatest importance specific needs were verbalised, such as the issue of “Employment and labour mobility”, which implicates very high interest e.g. in Hungary. This issue was – besides high ranks for the already mentioned issues – ranked as one of the first four needs. In addition to the importance of labour mobility, the strong correlation of this issue of accessibility and the field of transportation were mentioned; this subject had been declared as a field of primary importance, in relation to the need of concentrating on in-CENTRAL accessibility within the programme.

Concerning the question about the relevant needs for each of the interviewee’s regions as well as the missing needs, other relevant issues had been identified and ideas about different rankings had been gathered.

A range of interviewees agreed with the main challenges identified. They recognised the issues as very important ones for their regions. Nevertheless it had been mentioned, that a broader formulation of priorities would be helpful, due to an appearance/description too technical and in order to allow the inclusion of transnational themes and integrated regional development as well as taking into account the territorial variety of the CENTRAL EUROPE area.

This proposal had been confronted with the suggestion of discussing the needs in a more specific context (e.g. the peculiar industrial structure of the CENTRAL EUROPE area) and within a clearly defined spatial focus to illustrate the specific characteristics of the region on hand. In relation to this spatial focus stands the need of a coordination of spatial development and transnational aspects of development, identified as further interesting and relevant needs.

The subject of “Climate change adaption” as well as “Risk prevention and management” gained importance, especially the fields of natural disaster prevention and long term environmental research.

Particularly “Education, skills and lifelong learning” had been recognised as an important issue in correlation with the need for skilled personnel and highly qualified employees. This correlates with the aim to strengthen the need of “Employment and labour mobility”. Furthermore the negative effects of out-migration and brain drain occurrences should be taken into account with higher significance.

Active ageing and the issue of “Demographic change” in general had been ascribed greater importance.

“Social inclusion” and “fight against poverty” had been identified as relevant too, representing the most important need in Slovakia. “Social inclusion” and “Combating poverty” is the most important need due to the economic situation for many people, which causes a low quality of life and which has a bearing on other needs as well.

Besides, transport and public transport in particular, had been identified as important issues, especially related with multimodal logistic and environment issues. The capacity of (transportation) infrastructure had been regarded as an important topic as well, especially in combination with questions such as the European financial capacity to tackle gaps in accessibility. Besides, a need in reducing still existing bottlenecks and gaps (e.g. connections to airports, highways) had been identified, illustrating the major need of prosperous regions to have access to good mobility-options within the region/central places.

Stakeholders and institutions capable to tackle the relevant needs encompass a variety of different organisations and a multiple group of private as well as public stakeholder. The importance of each stakeholder varied obviously due to the interviewee's background.

The public sector was identified as one of the key stakeholder (municipal, regional as well as national level), in addition to innovation agencies and cluster-networks (for R&D), environmental national agencies, chambers (of industry, commerce and crafts), labour unions as well as NGOs in the social sector; furthermore universities had been identified as stakeholder for a set of several needs.

It had been recognised as one aim of the state to provide an adequate institutional background to ensure coherence between activities and national strategies and concepts. Furthermore, national level authorities represent the most important potential partners in some cases.

Although, the cooperation with national authorities represents a multi level governance issue depending on the specific needs, which depicts the situation of varying administrations and institutions interacting due to the specific sector on hand. Two levels of administration were outlined, reaching from national to regional level, whereby the regional level represents an essential part to transpose the European strategy on the ground. Furthermore, voluntary associations of municipalities could be identified as important stakeholder on the regional level.

Private enterprises had been perceived as well, ranging from private research and development enterprises, technological centres, SMEs or large investors, private consultancy firms or regional development agencies.

Beneficiaries from tackling the relevant needs are a heterogeneous number of people, ranging from the public administration and institutions to the population and general public as well as research institutions such as universities and SMEs.

The population might benefit from an increasing economic activity and prosperity which is dependent of economic wealth; public administrations might get an input from the CENTRAL EUROPE Programme area for the design of their own policies.

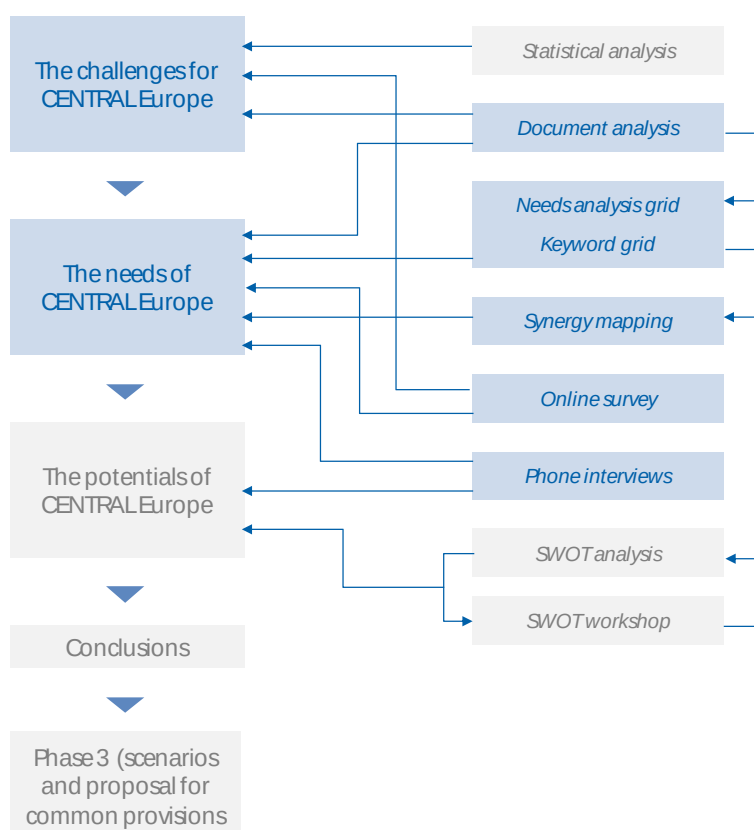
In general, it might be quite difficult to measure the benefits of the programme for different institutions and the citizens due to direct as well as a big amount of indirect impacts.

Most of the interviewees mentioned that possible project partners encountering the identified needs with concrete transnational projects are the already mentioned institutions and organisations. A main emphasis has been laid on private enterprises, private consultancy firms as well as universities (of applied sciences) and various regional development agencies and chambers as well as unions of towns and municipalities and voluntary associations of municipalities.

3.3 A common picture of the needs of the region

Combining the existing results of the baseline analysis, the document review (needs-analysis-grid/keyword-grid) and the results of the on-line survey and the phone interviews, the identified needs have been depicted in detail (cf. Figure 34).

Figure 34: Course of the analysis: elements of the analysis of needs

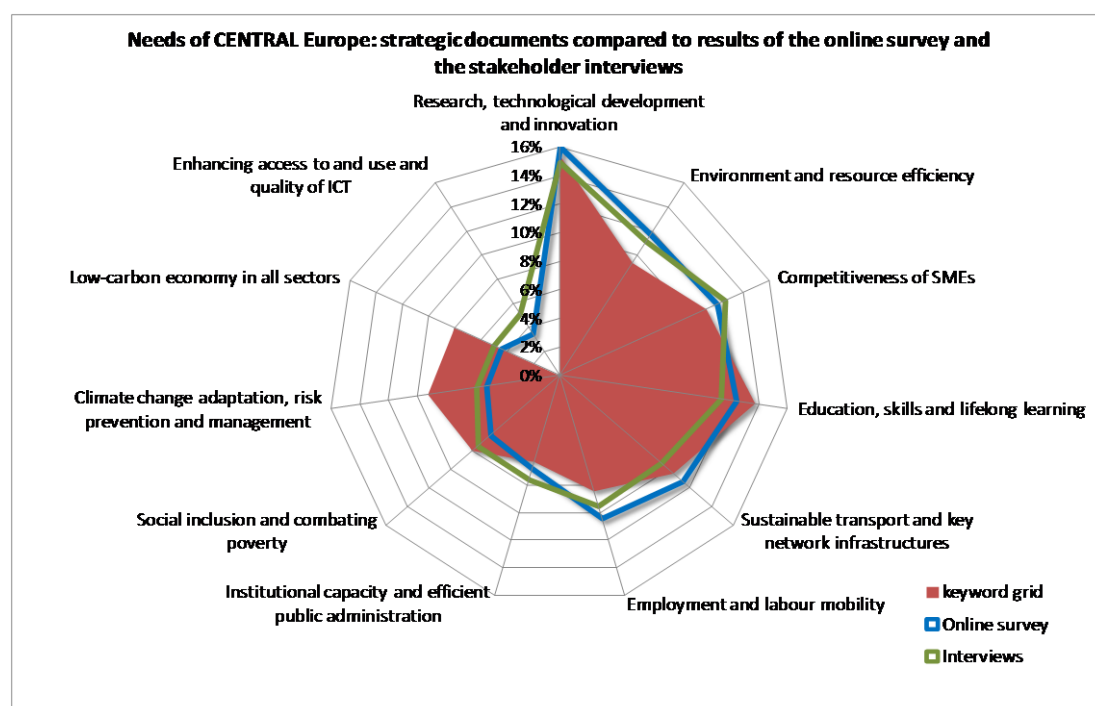


As far as one can compare, the needs detected in the strategic documents by the keyword analysis and the needs that the stakeholders judged most important in the online survey and in the phone interviews show the same trends. However, it has to be stated that the comparability of the two methods is weak in some areas (for instance ICT which could not be included because it was not spotted in the strategic documents), which is owed to the fact that the strict timeline of the study did not make it possible to perfectly fine-tune the two methodological frames. Moreover the single details in some results such as the keywordgrid (e.g. the exceptionally high performance of “the use of renewable energy sources” in the need assessment) are of course watered down by the aggregation of several aspects into the framework of the thematic objectives as stipulated in the draft Regulation. Therefore, the usage of renewable energy sources is still an important issue, but due to the low performance of other issues which are part of the same thematic objective as well – for example the issue of energy diversification or energy innovation (cf. Figure 22) – ‘Low carbon economy in all sectors’ does not represent

the highest ranking need for the area. This results in the aggregation of different needs within the different thematic objectives of the regulation. Still, there is a notable resemblance between the three results:

- ▶ ‘Research, technological development and innovation’ remain the most urgent needs in CENTRAL EUROPE
- ▶ Secondly, there are a couple of needs that are considered also very important: ‘Environment and resource efficiency’, ‘Competitiveness of SMEs’, ‘Education, skills and lifelong learning’, ‘Sustainable transport and key network infrastructures’ and ‘Employment and labour mobility’
- ▶ The needs least stressed in all three strands of the needs survey were ‘Institutional capacity and efficient public administration’, ‘Social inclusion and combating poverty’, ‘Climate change adaptation, risk prevention and management’ and ‘Low-carbon economy in all sectors’.
- ▶ The most heterogeneous results have been detected in ‘Climate change adaptation, risk prevention and management’ and ‘Low-carbon economy in all sectors’, which both are much more often are referred to in strategic documents than by the stakeholders consulted directly.

Figure 35: Needs of CENTRAL Europe: strategic documents compared to results of the online survey and the stakeholder interviews



The needs can be basically divided into four categories already paving the way to the following SWOT analysis:

Either the recipe for addressing challenges is emphasizing existing regional assets.

- ▶ Or there are specific existing weaknesses that could be mitigated.
- ▶ Sometimes, the needs address the activation of currently unused potentials of countries/regions/stakeholders.
- ▶ Finally, the prevention of future threats to be foreseen might also constitute a need.

4. SWOT Analysis and potentials

The following chapter of analysis illustrates the results of the SWOT analysis, conducted for the CE 2014+.

The first section of the chapter gives an overview of strengths, weaknesses, opportunities and threats dividing the analysed data in categories, representing the 11 thematic objectives and one additional category, summing up supplementary information. This step of analysis represents the cumulative working step after the territorial analysis and the analysis of the needs (including both stakeholders' points of view and document analysis). In order to depict the heterogeneity of the programming area adequately the different SWOT-tables (one for each of the thematic fields) have been produced, which allow more geographical differentiation by picking out different characteristics of specific regions.

Within the second subsection, a final one-page SWOT is visualised, concluding the main findings and presenting an integrated picture of the current situation in CENTRAL EUROPE. Within this step of analysis no data is lost, but this table aggregates all these results from the 11 thematic SWOT tables for further processing. The third subsection provides a summary of comments from the main stakeholders. Within the phone interviews, first results of the SWOT-analysis were presented to the interviewees; main results from these outputs are presented below. The next (4th) subsection compares shortly the SWOT-analysis at hand with the analysis of the former CE-programme. It just illustrates main trends and developments.

Within the fifth section, identified potentials and barriers (which are presenting a combination of internal and external factors) are mentioned. Finally, the results of the whole chapter are summed up and the eleven aggregated potentials produced for the CENTRAL programme are depicted again, divided into four 'meta' priorities.

4.1 The sectorial SWOT tables: Overview of strengths/weaknesses and opportunities/threats in the CENTRAL area

The SWOT analysis as an analytical tool to assess the efficiency of policies and as a formal way of identifying strengths and weaknesses of each option, and of examining the opportunities and threats arising from them is the mean to take the already identified challenges, which the regions in CENTRAL EUROPE are facing, as well as the current and future needs and the holder of these needs into account.

The SWOT Analysis concludes the results of the analysis of the needs and the challenges. Main input was given from the baseline scenario as well as from the literature review of national as well as transnational and strategic documents. The

following 12 SWOT tables represent the strengths, weaknesses, opportunities and threats of the CENTRAL EUROPE area within the 11 thematic objectives as well as within one additional category which comprises the horizontal matter of urban and rural development. The SWOT-tables describe internal strengths and weaknesses of the CENTRAL EUROPE region as well as external opportunities and threats, which represent overall European and worldwide trends the area is confronted with. The analysis provides an overall view of internal and external factors challenging the CENTRAL EUROPE area and influencing the needs, as well as they point out the most important strengths and opportunities for the transnational area.

The SWOT Analysis includes the results from the territorial analysis and the analysis of the strategic documents, the results of a workshop of the project team with the geographic experts, enriched by the stakeholders view collected through the online survey and the interviews.

This compilation- and synthesis-process reduces of course regional and local differences in order to reach the main goal of the analysis to get an overall view of internal and external factors challenging the CENTRAL EUROPE area. Therefore, the internal and external data varies concerning the level of detail and regionalisation: some factors refer to national issues while others correlate with regional specifics. This level of detail is provided to illustrate an integrated picture of the CE situation with regard to regional differences.

Table 11: SWOT-tables of the CENTRAL EUROPE area

Research, technological development and innovation	
Internal factors	
Strengths	Weaknesses
▶ Growth in business-related services, cross-sectoral and technology-oriented industries ▶ Regions with high concentration of creative and cultural capital show highest prosperity levels ▶ High expenses in R&D in urban regions, target work area for highly skilled workers ▶ Some rural and intermediate areas show significant R&D activities ("islands of innovation") ▶ Support of several clusters by different national strategies ▶ Renaissance of regional circuits	▶ Low level of R&D (environment of innovation, cooperation projects) in several (rural) regions ▶ Growth rates of the service sector partly below EU average ▶ Insufficient technology transfer and lack in the access to R&D-results especially for SMEs ▶ Companies largely not focused on innovation and R&D ▶ Comparably lower levels of R&D in New Member States
External factors	
Opportunities	Threats
▶ Promotion of innovation and an attractive investment climate in several regions ▶ Positive influence of growth poles ▶ Positioning in technologically demanding segments and market niches ▶ Creative occupations can contribute to better territorial balance and cohesion. ▶ Large marginal benefits from modernisation (technology) ▶ Support of research centres	▶ Increasing gaps between innovative proactive regions and regions with innovation deficits ▶ Braindrain of young and creative talents, due to loss of urban and environmental quality in some "mature" economic regions

ICT	
Internal factors	
Strengths	Weaknesses
▶ Most of the capital regions in CE and the south of Germany boast high levels of high-speed internet connections ▶ Among the new EU Member States, Slovenia and Slovakia generally present the highest values of Internet use at home. ▶ Frog-leaping of technological progress in terms of ICT-quality in some regions (broadband implementation)	▶ Sectoral and Spatial inequalities of ICT-infrastructure ▶ Less than 70% of households with access to the internet in some regions (e.g. northern parts of Italy, Poland and the Czech Republic) ▶ Broadband coverage in thinly populated areas generally lags behind that in densely populated ones
External factors	
Opportunities	Threats
▶ Opportunity of upgrading ICT quality in the wake of EC goal to bring all Internet connections to the speed of 30Mbps by 2020 ▶ Mobile technologies can play a key role in closing the gap of ICT coverage between thinly and densely populated areas	▶ Increasing gaps between well connected regions and those with ICT deficits
Competitiveness of SMEs	
Internal factors	
Strengths	Weaknesses
▶ In some regions local enterprises/SMEs show high levels of innovation ▶ SMEs are the seedbed for technological innovation and in combination with good education levels, entrepreneurs may act as regional innovation motors	▶ Strong economic regional disparities ▶ Access to finance still remains fragmented and out of line with current needs, especially for start-ups and small loans (micro credit). ▶ Deficits in "green" employment forms, creative industries and co-operative SMEs (clusters, networks)
External factors	
Opportunities	Threats
▶ Increasing embeddedness into global capital flows (additional market opportunities) ▶ Expansion of action radii due to enlargement processes ▶ Increase in "green" employment based on EU-funds, support for eco-innovation ▶ Better access to finance for SMEs through venture capital investment and loan guarantee instruments" ▶ Enhancement of the competitiveness regulations trigger SME development ▶ Co-operative economic activities: development of clusters & networks	▶ Decreasing linkages to the location of economic activities ▶ Increasing embeddedness into global capital flows threatens local market potentials ▶ Lack of availability of a sufficiently trained workforce may be the reason for losing the ground in competitiveness in a globalized world ▶ Lack of competitiveness due to contracting financial markets (difficulties to raise private capital)
Low-carbon economy in all sectors	
Internal factors	
Strengths	Weaknesses
▶ High level of experience and know-how for renewable energy available ▶ Increase of clean energy production, as e.g. wind and solar energy ▶ High percentage of biomass production ▶ Existing geothermal energy potentials ▶ Use of energy saving technologies (infrastructure/housing) ▶ Support of sustainable agricultural activities	▶ Increasing energy demand (due to increase in decentralized production) ▶ High level of energy import dependency and imports from countries vulnerable to economic or political instability ▶ Low energy efficient regions in Eastern and South-Eastern Europe ▶ Regions with high energy dependency in the Czech Republic and in Northern Italy (> 10% of employment in industries with high energy spending).

	▶ Use of renewable energy resources still low in new EU countries (e.g. Czech Republic, Poland, Slovakia) ▶ Lack of energy corridors and power lines, especially for renewable energy ▶ High energy intense transport ▶ Lack of energy efficiency of public institutions ▶ New investments in nuclear power stations in some CE-countries
External factors	
Opportunities	Threats
▶ As a consequence of EU supporting renewable, decentralized energy production, regional energy security will be increased ▶ Increasing prices for fossil fuels open up opportunities for the development of renewable energy resources and the creation of new sources of income and employment. ▶ Opportunity of improving energy connectivity in the wake of EC TEN.	▶ Strong path dependency of energy supply (long term contracts, market structure) ▶ As a result of the crisis, lower energy prices and tighter credits make investments in clean energy technologies less attractive ▶ Transport is the fastest growing sector in terms of energy use, with the strongest reliance on fossil fuel ▶ Existing lifestyles in "mature" economies and catching up processes in New MS lead to increased energy demand
Climate change adaptation, risk prevention and management	
Internal factors	
Strengths	Weaknesses
▶ Existing flood prevention measures and hazard zoning, especially in Alpine regions	▶ High water dependency in some regions because of intensive agriculture ▶ Water dependency of regions with a high proportion of hydro energy ▶ New MS are generally more vulnerable to a significant climatic impact on summer tourism ▶ Comparably high proportion of employment in agriculture and forestry in southern and eastern European regions, which are highly effected by climate change ▶ High probability of floods along river basins (Most vulnerable: Germany, Western Poland) ▶ Deforestation and inappropriate land use increases the threat of landslides, especially in Alpine and Carpathian regions
External factors	
Opportunities	Threats
▶ Increasing awareness about climate change effects and counter measures ▶ Opportunity of implementing adaptation measures, risk prevention and management in the wake of EC 2020 strategy.	▶ Increasing occurrences of natural hazards and higher occurrences of floods ▶ Strong increase of number of tropical nights in urban areas ▶ Increase of minimum temperature in winter & continuous reduction of blanket of snow ▶ On-going desertification and increasing aridity in some regions ▶ Risk of hydrogeological instability

Environment and resource efficiency	
Internal factors	
Strengths	Weaknesses
▶ Natural and cultural heritage as important location factors ▶ Richness and diversity of landscape ▶ Italy, Hungary and Slovenia have a higher share of protected areas than the EU-27 average ▶ Waste water treatment capacity is very high in Slovakia, Slovenia, Austria and Germany. ▶ Revitalised brown fields and deprived areas	▶ Fragmentation, loss and diminishing diversity of natural areas, missing ecosystem-networks ▶ High level of land consumption ▶ Existing land use conflicts ▶ Bad air quality and high ozone concentrations in cities ▶ Bad water quality of rivers and lakes in some regions (eutrophication) ▶ Morphological alterations to rivers and lakes ▶ Unstable water balance ▶ Punctual hotspots of immissions (e.g. high values of Ozone and particulate matter) ▶ Lack of quality and quantity of environmental infrastructure in some regions (waste and water treatment) ▶ Industrial risk sites as a danger to environment and citizens. ▶ AT, CZ, DE, PL and SK show lower overall contribution of areas protected by law than the EU average. ▶ Missing evaluation of the long-term impact on natural environment (LTER)
External factors	
Opportunities	Threats
▶ Cohesion Policy focusing on environmental infrastructure, ranging from clean drinking water supply, waste management and waste water treatment ▶ In the wake of EU policies (environment and CAP) establishment of a high proportion of protected areas ▶ Rising resource prices trigger resource efficiency	▶ Increased economic activities cause increased use of environmental resources ▶ Climate change affects natural environment (extinction of species; geographical shift of crops) ▶ Tourism pressure on natural resources: high tourism intensity in some regions
Sustainable transport and key network infrastructures	
Internal factors	
Strengths	Weaknesses
▶ High potential multimodal accessibility in capital regions and in the western regions especially in Southern Germany, Eastern Austria and Italy ▶ Higher shares of public transport in the new Member States (except Slovenia) ▶ High accessibility by rail around city hubs (nodes) and along corridors of high-speed rail lines ▶ High increase of road accessibility in the Western part of Poland and the Czech Republic ▶ Ongoing activities to promote sustainable transport ▶ High-speed projects in Southern Germany led to significant relative gains for regions in terms of improved accessibility	▶ Existing core-periphery disparities in accessibility: Core: regions of Germany, Austria and Northern Italy; periphery: the Eastern and Southern European regions ▶ Weak regional and local accessibility (railways, motorways and airports) especially outside of agglomeration areas and in the New Member States ▶ Weak regional accessibility by rail in most Eastern European regions and in rural areas in the Western regions ▶ Low quality of public transport in many peripheral regions ▶ Decreasing share of public transport in many regions, especially in peripheral regions ▶ Lack of integrated transport system/lack of multimodality in some regions ▶ Low quality of regional roads and missing road connections in some peripheral regions ▶ Lack of accessibility of urban centres from some peripheral regions ▶ Deficits in long-distance transport connections between Germany, Poland and Eastern Europe ▶ Eastern EU Member States have prioritized road infrastructure at the expense of rail infrastructure

External factors	
Opportunities	Threats
▶ Ongoing investments in Connections in long-distance transport TEN-T networks ▶ Regions with high accessibility are usually economically successful ▶ Increasing accessibility in Europe also strengthens accessibility of CE regions	▶ Lack of investment in regional infrastructures increases the core-periphery disparities. ▶ Disparities in multimodal accessibility lower the competitiveness of places. ▶ Eastern countries are in a catching up process and motorized individual transport is on the rise
Employment and labor mobility	
Internal factors	
Strengths	Weaknesses
▶ Benefits of specific geopolitical situations and modifications for borderregions after EU-enlargements ▶ Natural and cultural heritage as important location factors ▶ Use of endogenous potential to strengthen regional identity ▶ Economic migration across borders and high quality of cross-border labour markets ▶ Existing labour market cooperation	▶ Strong economic disparities between CE regions (between old and new Member States) ▶ Inequalities in GDP between the peripheral and central areas and at the rural-urban level ▶ Low activity rate ▶ Rising unemployment in the southern part of CE (long-term) ▶ Increasing number of youth unemployment (Eastern Germany & Candidate Countries) ▶ High unemployment rate in eastern German regions, border regions in the north-east of Hungary and Central-Eastern Slovakia ▶ Unidirectional workforce migration from new to old MS ▶ Exploitation of natural resources in regions of intensive tourism ▶ Missing interregional cooperation in tourism development ▶ Eastern Hungarian, Eastern Slovakian and Western Polish regions most vulnerable to transformed labour markets
External factors	
Opportunities	Threats
▶ Common currency ▶ Flexibilisation of the labour market ▶ Attractiveness of CE regions as a destination for foreign investment, particularly of cities and agglomerations ▶ Support of alternative employment forms through EU funding ▶ Identification of new niches for future development due to labour market transformations	▶ Increase of disperse production systems ▶ Increasing labour market competition with other global regions (China, India, ...) ▶ Pressure on economic productivity ▶ Rising competitiveness of different locations due to disappearing borders ▶ Former geopolitical borders ["former iron curtain still manifests itself"] ▶ Decrease of employment in the primary and secondary sector due to market transformation ▶ Agglomeration advantages of cities and agglomerations tend to represent disadvantages for many other European regions

Social Inclusion and combating poverty	
Internal factors	
Strengths	Weaknesses
▶ Diverse population, as e.g. ethnic diversity and presence of linguistic minorities ▶ Rehabilitated built infrastructure, housing estates urban centres & sub centres ▶ Respect for gender equality ▶ Public interventions for the provision of equal opportunities ▶ Low crime rates	▶ Highly polarised CE in terms of income, education, health care, demographics, and employment ▶ Insufficient access to services and employment in regions dominated by small villages and sparsely populated areas ▶ Major and increasing gaps in quality and physical conditions of public services (east–west divide) ▶ Vulnerable regions towards the access to services (health care, childcare, elderly care) in the New Member states and Italy ▶ Marginalisation of peripheral areas ▶ Demographic change increases problems to finance social and technical infrastructure especially in shrinking regions ▶ Low quality of living conditions in some housing estates ▶ Disadvantages for ethnic minorities – social problems, low levels of education, high unemployment, etc. ▶ Risk of poverty for different groups
External factors	
Opportunities	Threats
▶ Increase in healthy life expectancy ▶ Equal opportunities as a horizontal theme (programming, implementation, monitoring, evaluation) ▶ Decrease in income disparities between urban and rural areas, due to the economic crisis	▶ Ageing population ▶ Shrinking peripheral regions ▶ Increasing number of depopulated areas ▶ Fertility rate below reproduction level ▶ Increasing social diversity and polarisation

Education, Skills and lifelong learning	
Internal factors	
Strengths	Weaknesses
▶ Increasing level of education increasing adaptability of people ▶ Increasing female education participation ▶ Activated people by lifelong learning ▶ Employment growth through qualified and flexible workforce ▶ Young population as the creative future potential ▶ Highest share of population with tertiary education located around greatest cities	▶ Deficits at the educational level in south–eastern regions ▶ Decrease in the proportion of the population with tertiary education in the old EU MS
External factors	
Opportunities	Threats
▶ In the wake of transnational cooperation, increase of exchange of knowledge and cultural values ▶ Maturity of European knowledge society (Bologna process; Student exchange programs) ▶ Higher participation rates in ICT applications (e.g. e–learning)	▶ Increasing competition between regions (labour market and population)

Institutional capacity and efficient public administration	
Internal factors	
Strengths	Weaknesses
▶ Connected top-down and bottom-up initiatives with the help of multi-level governance ▶ Project based co-operation initiatives & co-operation on institutional, political & administrative level ▶ Tradition of interregional transnational and cross-border cooperation	▶ In some regions weak civil society – activation of citizens needed ▶ Variety of administrative systems ▶ Outdated public administration in some regions ▶ Lack of a cross sectoral approach
External factors	
Opportunities	Threats
▶ Connectivity to co-operative macro-regional strategies such as the Baltic Sea Strategy, the Danube Strategy and the Adriatic Sea Strategy ▶ Traditional administration accompanied by e-administration (online service component, human capital component, telecommunication infrastructure component) ▶ Increase in participation of local communities in higher-level public decisions	▶ Increasing gap of regulation and implementation necessity and know-how and man power of the administration ▶ Increasing transaction costs due to increasing direct participation of larger parts of the population ▶ Threat of “over-regulation” by central authorities ▶ Withdrawal of the state from core tasks

Others (urban and rural development)	
Internal factors	
Strengths	Weaknesses
▶ Integrated regional planning to support urban-rural relationships regarding public services in some regions ▶ Improvement of spatial information with relevance for planning decisions	▶ Negative impacts of suburbanisation ▶ High potential of land use conflicts in valleys (settlement, traffic, nature) ▶ Disparities between urban and rural areas ▶ Weak status of regional planning and lack of spatial planning implementation at the regional level in some regions
External factors	
Opportunities	Threats
▶ Promotion of a polycentric and balanced territorial development	▶ Brain Drain occurrences in peripheral regions ▶ Increasing economic contrasts between urban and rural areas ▶ Suburbanisation processes

4.2 The final SWOT table

To encapsulate the crucial issues for the whole programme area, the 12 sectorial SWOT tables, differentiated by thematic field, are condensed into one concluding SWOT table, taking the whole CE area and its peculiarities into account.

The concluding CE-SWOT table focuses on those relevant issues that are covering the complete CENTRAL area. It serves as the main input for the following identification of potentials and barriers, which define the first step for the subsequent definition of scenarios. As already mentioned in the introduction to this chapter, the whole SWOT-procedure represents a cumulative working step and tries to take the heterogeneity of the programming area into account. The sectorial SWOT-tables, identified within the previous chapter, allow for geographical differentiations and are identifying more specific and regional characteristics, than the one-page SWOT below. The following one-page SWOT should therefore illustrate relevant issues for the whole area.

However, due to the necessity to differentiate for example rural and agglomerated areas or so-called “islands of innovation”, a certain territorial differentiation is also given within the final SWOT..

Despite these territorial specifics, the one-page SWOT represents relevant results for the whole CENTRAL area and tries to illustrate an integrated picture of the current situation.

No information gained in the process of analysis is therefore lost. The thematic SWOT-tables are relevant sources of information and it was attempted to illustrate a lot of (relevant) findings of analysis in the final SWOT table as well; for example the issue of “Low level of R&D (environment of innovation, cooperation projects) in several (rural) regions/ insufficient technology transfer and lack in the access to R&D-results especially for SMEs” identifies a relevant weakness of the area, and is an aggregation of various weaknesses identified in different thematic sections of the former SWOT-tables, taking the transnational character of the CENTRAL area into account.

Table 12: final SWOT-table of the CENTRAL EUROPE area

Internal factors	
Strengths	Weaknesses
▶ High expenses in R&D in urban regions, target work area for highly skilled workers ▶ Some rural and intermediate areas show significant R&D activities ("islands of innovation") ▶ High level of experience and know-how in high-tech services (e.g. renewable energy) ▶ Frog-leaping of technological progress in terms of ICT-quality in some regions (broadband-implementation) ▶ Increase of renewable energy (wind, solar, biomass, geothermal energy potentials) ▶ Use of energy saving technologies (infrastructure, housing) ▶ Existing flood prevention measures and hazard zoning, especially in Alpine regions ▶ Richness and diversity of landscape, natural and cultural heritage as important location factors ▶ On-going investments in connections in long-distance transport TEN-T networks/high potential multimodal accessibility in capital regions and in the western regions ▶ Diverse cultures and population (ethnic diversity, linguistic minorities, gender) ▶ Increasing level of education/lifelong learning/female education participation → qualified workforce ▶ Growth in business-related services, cross-sectoral and technology-oriented industries ▶ Benefits of specific geopolitical situations and modifications for the CE area after EU-enlargements ▶ Revitalised brown fields and deprived areas/Rehabilitated built infrastructure, housing estates, urban centres & sub centres ▶ Connected top-down and bottom-up initiatives with the help of multi-level governance ▶ Tradition of interregional transnational and cross-border cooperation on institutional, political & administrative level and within projects (strengthening of identities, endogenous potential, economic cooperation, labour market migration)	▶ Low level of R&D (environment of innovation, cooperation projects) in several (rural) regions/insufficient technology transfer and lack in the access to R&D-results especially for SMEs ▶ Sectorial and spatial inequalities of ICT-infrastructure ▶ Strong economic disparities (core-periphery) in GDP ▶ Access to finance out of line with current needs, especially for start-ups and small loans (micro credit) ▶ Strong economic disparities between CE regions (esp. in old and new Member States / Inequalities in GDP between the peripheral and central areas/ Unidirectional workforce migration from new to old MS ▶ High level of energy import dependency and imports from countries vulnerable to economic or political instability/ increasing energy demand and lack of energy corridors and power lines esp. for renewable energy ▶ High level of land consumption & existing land use conflicts ▶ Bad air quality and high ozone concentrations in cities/ bad water quality of rivers and lakes in some regions (eutrophication) ▶ Lack of quality and quantity of environmental infrastructure in some regions (waste and water treatment) ▶ Weak local, regional and transnational accessibility especially outside of agglomeration areas and in the new MS and lack of integrated transport systems and multimodality ▶ Low quality of public transport, decreasing share of public transport & missing road links and border-crossings in many peripheral regions ▶ Low activity rate ▶ Increasing number of (youth) unemployment in some areas ▶ Demographic change increases problems for finance social and technical infrastructure especially in shrinking regions ▶ Marginalisation of peripheral areas and insufficient access to services and employment ▶ Insufficient access to services and employment in regions dominated by small villages and sparsely populated areas ▶ Risk of Poverty for different groups ▶ Disadvantages for ethnic minorities – social problems, low levels of education, high unemployment, etc. ▶ Weak civil society/ Activation of citizens needed ▶ Variety of administrative systems/Outdated public administration
External factors	
Opportunities	Threats
▶ Promotion of innovation and an attractive investment climate in several regions ▶ Supporting R&D, technology and innovation & research centres ▶ Large marginal benefits from technological modernisation ▶ Opportunity of upgrading ICT quality in the wake of EC goal to bring all Internet connections to the speed of 30 Mbps by 2020 ▶ Enhancement of competitiveness regulations triggers SME development ▶ Common currency ▶ Attractiveness of CE regions as destination for foreign investment (particular CE cities and agglomerations) & increasing embeddedness into global flows ▶ Policy support of co-operative economic activities, development of clusters and networks ▶ Opportunity of improving energy connectivity in the wake of TEN-E and of, decentralised energy production ▶ Increasing awareness about climate change effects and counter measures ▶ Cohesion Policy focusing on environmental infrastructure, ranging from clean drinking water supply, waste management and waste water treatment ▶ In the wake of EU policies (environment and CAP) establishment of a high proportion of protected areas ▶ Flexibilisation of the labour market/support of alternative employment forms through EU funding ▶ Increase in "green" employment based on EU-funds, support for eco-innovation ▶ Tourism as a tool to balance regional disparities and job creation ▶ Expansion of action radii due to enlargement processes ▶ Promotion of a polycentric and a balanced territorial development ▶ Maturity of European knowledge society and the exchange of knowledge and cultural values promoting flexible creative workforce ▶ Connectivity to co-operative macro-regional strategies such as the Baltic Sea Strategy, the Danube Strategy and the Adriatic Sea Strategy	▶ Increasing gap of regulation and implementation necessity and know-how and man power of administration/Threat of over-regulation ▶ Lack of Competitiveness (due to lack of trained workforce, contracting financial markets, lack of multimodal accessibility ...) ▶ Increasing embeddedness into global capital flows threatens local market potentials ▶ Lack of investments in regional infrastructures increases the core-periphery disparities ▶ Existing lifestyles in "mature" economies and catching up processes in New MS lead to increased energy demand ▶ Increase of minimum temperature in winter & continuous reduction of blanket of snow ▶ Climate change affects natural environment (extinction of species; geographical shift of crops) ▶ On-going desertification and increasing aridity in some regions as well as strong increase of number of tropical nights in urban areas ▶ Increasing occurrences of natural hazards and floods ▶ Increased unsustainable use of environmental resources due to economic activities ▶ Brain drain of young and creative talents from peripheral regions due to loss of urban and environmental quality ▶ Increasing (labour) market competition with other global regions (China, India, ...) and pressure on economic productivity (due to disappearing borders) ▶ Agglomeration advantages of cities tend to represent disadvantages for rural/peripheral regions ▶ Ageing population ▶ Suburbanisation processes ▶ Increasing gaps between innovative proactive regions and regions with innovation deficits, well connected regions and those with ICT deficits

4.3 Comments from the stakeholders – results of the phone interviews

Overall the interviewees' feedback concerning the SWOT-analysis was common consent as the identified issues are well identified and generally relevant for the regions and can be applied to the CENTRAL EUROPE area. The findings were acknowledged against the background of the large variation of interests from the CENTRAL area but it had been accentuated that differences among all countries, especially old and new member states still have been huge and that the different parts of the area or even the different nations being part of it are showing totally different situations (e.g. socio-economic ones).

It had been criticised that the items of the SWOT suffer from oversimplification so that it is difficult to understand what the specificity of CENTRAL EUROPE is. The interviewees pointed out that not all of the identified issues fit the specific needs of their region which is a result of the regional polarisation within the CENTRAL area. The degree of accuracy was strongly depending on the regions geographical and socio-economical characteristics.

Discussing the strengths identified for the CENTRAL area, the question of whether "tradition of cross border cooperation" should be strength or opportunity the interviewees had dissenting opinions. The arguments were ranging from: After years of cooperation, the different public actors are keener in exchanging experiences, solving common issues and sharing strategies; to there is no tradition in cross-border cooperation yet because cross-border cooperation has just been started. The external frontier of the European Union had been located in the middle of the CENTRAL area until 2004. There are many opportunities for the future but some interviewees did not think that it is a strength yet. Of course the modification after the EU-enlargement is a strength because the surrounding was just a semi-circle until 2004 and has become a full circle as a result of the enlargement. It can be stated that, tradition of cross border cooperation is not true in general; it depends on the conditions of specific borders.

Some strengths, weaknesses, opportunities and strengths which have been identified might be relevant issues for the CENTRAL EUROPE area as a whole but no issues for the specific regions the interviewees were talking about.

Strengths

The set of strengths identified within the analysis includes relevant issues and topics, although these strengths should be differentiated in a spatial way, involving a wider spectrum of relations (e.g. border relations) and central geographical positions (instead of border regions).

Additionally the set of strengths identified within the SWOT analysis should also contain the high-educated personnel and skilled manpower.

The issue of co-operation was a strongly discussed issue with different opinions between the interviewees, although it was mentioned, that for some regions within the area, the tradition of co-operation is a mean to exchange experiences, to solve common issues and to share strategies.

Weaknesses

For a selection of regions, the identified weaknesses are important issues and fully relevant. Some weaknesses are mentioned – such as the missing integration – where no method or strategy is applied to combat or mitigate this weakness.

The interviewees declared for example the deficits in transport infrastructure as important issues, e.g. in the case of Poland especially the still missing North–South connections for both, road and rail, were stated as relevant topics.

Besides the inadequate integration of core and peripheral regions, the low commitment and political strength of regions was mentioned; especially in Easter Europe a remarkable amount of cities and regions are dependent from centralistic governments. An increase in federal power was remarked as a possible approach improving the situation of cooperation on the regional level. Another issue was the opinion of one interviewee concerning a general lack on joint identity.

Besides, it seems important to display the problems and needs of peripheral areas and rural regions. Marginalisation is identified as a crucial problem for inner peripheries, pointing out two additional weaknesses, such as the dichotomy between capital cities and the countryside, which is increasing permanently. The other weakness is the volatility against global challenges, particularly in less diverse local economies without resources and a high level of energy exposure.

Opportunities

The opportunities discussed within the SWOT-analysis cannot take the whole CENTRAL EUROPE area into account; for example the issue of polycentric structures represents a possible opportunity for centre regions, but not for the peripheral, sparsely populated regions, where no critical mass can be provided. In the case of Slovakia, which has just one large centre and the development of a polycentric structure is no opportunity.

Besides, one of the most important issues is the improvement of cross-border connections as well as – additionally – the field of large-scale infrastructure such as TENs and transport corridors. For some interviewees, the issue of economic

strengths (which can be transferred into opportunities (landscape, under-utilised level of education) should be minded in a more detailed way.

In general, the development of a polycentric spatial structure, co-operative economic activities and improvements of cross-border connections were identified as main opportunities.

Threats

Commonly, the range of threats was accepted by the different interviewees, but it was mentioned, that the set of threats was kind of narrow and an expansion of the list was supposed (e.g. depopulation tendencies mirrored quite a part of the list of threats).

Besides the important issues of brain drain occurrences, shrinking peripheries and demographic processes and its dangerous effects on rural areas, the issue of acceptance and respect for other cultures may be included. It has been mentioned, that there exists a lack of willingness to understand each other respectively to accept other, foreign cultures.

Supplemental interesting issues were the declining role of the European economic space within global flows and the crisis of EU institutions (EUR-zone).

4.4 Comparing the SWOT 07–13 & 2014+

A comparison of the two SWOT-analyses from the OP CENTRAL EUROPE 07–13 and the analysis at hand outlines some crucial trends and issues of the area.¹⁶³ Besides differences within the analyses, the following list of issues may outline, that former weaknesses of the area are still visible, though strengths of the area have sustained.

Strengths

As strengths of the region, still quite similar topics have been identified in both analyses ranging from the dynamic economic development of the area to the natural heritage and environment and their importance as location factors as well as for the future economic development. Furthermore, the high accessibility and the construction of TEN networks was an issue in the illustrations of strengths. The diversified population (ethnicities, minorities) as well as the diverse culture had been identified as strengths in both analyses. Furthermore, the high and increasing

¹⁶³ CENTRAL EUROPE (2011): CENTRAL EUROPE. Cooperating for Success. Operational Programme. P. 30–32

level of education had been identified as strength as well. Additionally, the average or higher than average level of employment in high-tech services as well as the high level of experience and know-how was mentioned. The uniqueness of natural assets and the richness along with diversity of landscape had been identified in both analyses.

Moreover, the former SWOT analysis mentioned the high economic potential with industrial tradition as strength as well as the public R&D expenditure on average with the EU. These facts were not clearly identified within the current SWOT for CENTRAL EUROPE 2014+, because as the territorial analysis showed large disparities with respect to R&D expenditures, overall it would mean too strong a statement to classify this issue as strength for the whole area. Within the baseline scenario, it became clear, that western regions and capital cities within the CE area display a significant level of R&D in 2008 – this can be identified as strength – although the eastern part was clearly lagging behind. Therefore the expenditure on R&D can be indicated in some regions as strength, whereas others show quite negative developments.

Additional strengths identified in the current SWOT analysis, are the tradition of cross-border co-operations as well as the specific benefits of the definite geopolitical situation and the modifications for the CE area after EU-enlargements as well as the increase of clean energy and the use of energy saving technologies, which were defined as crucial issues for the implementation of a transnational programme.

Besides, different issues of accessibility were identified as positive internal issues for the CE area, especially in the former analysis, the access to two seas and the high modal share of railway in freight transport were mentioned as strengths. Also the high experience in development of the transport systems and the still high share in urban public transport were mentioned. Generally the focus on multimodality and integrated transport systems was visible in both analyses.

Within the latest analysis the revitalisation of brown fields and deprived areas had been mentioned as a key issue, which was not one of the main topics yet within the former analysis. Besides, the connected top-down and bottom-up initiatives with the help of multi-level governance was a topic, additionally project based co-operation initiatives in addition to co-operation on institutional, political and administrative level were mentioned.

Weaknesses

Within the identification of weaknesses, similarities between the SWOT-analysis 07-13 and the SWOT for the programme of 2014+ can be identified. Both analyses identified a generally low expenditure on R&D and strong economic disparities

within the whole area; also, the differences between urban and rural/peripheral areas as well as regions of different levels of accessibility are seen as weaknesses. Another tendency identified was the decreasing economic potential in peripheral rural areas. Additionally energy was defined as an issue in both analyses, discussing the high level of energy dependency and the comparably low share of renewable energy in CE with respect to the technical potentials actually available in the regions. However the SWOT 2014+ has admitted that the increase in renewable energy has to be regarded as a strength of the CE area.

A main topic of the identification of weaknesses was the bad quality of tangible location and natural assets within the CE area. Also the issue of transportation was discussed, ranging from the lack in quality and quantity of highly developed transport infrastructure to missing integrated transport systems and the absence of multimodality. Furthermore road safety and missing public transport and road links were discussed. Further trends mentioned concerned the issue of education, besides the low level of population with tertiary education and the low level of participation in life-long learning, the low activity rate and the increasing number of youth unemployment were referred to. Additionally the risk of poverty for certain groups is a current issue.

Other weaknesses discussed the fragmentation of the landscape and the high value of land consumption. Additionally the issue of transportation and underused infrastructures were topics of interest. Furthermore the physical barriers such as impermeable borders and the use of mineral resources which had threatened the natural and human environment were defined as weaknesses. Supplementary the strongly gender-segregated labour markets and the lagging behind of ICT-infrastructure (especially in rural areas of new MS) were stated.

As supplementary issues the weak civil society and the need of activating the citizens was verbalised. Public administration and its outdated standards within the region as well as the marginalisation of peripheral areas in general were identified as a selection of the region's main weaknesses.

Opportunities

In case of opportunities, it was common consent, that issues ranging from the characteristic of CE being a destination for foreign investment, the increasing level of embeddedness into global capital flows and the strong foreign direct investment in the new MS are opportunities. Furthermore, high cluster portfolio strength as well as co-operative economic activities and the development of clusters and networks were identified as opportunities for the transnational area. Besides, the upgrading of transnational corridors and connections in long-distance transport as well as TEN-network construction were identified as issues defining main positive potentials for further development. The tide of an increasing mobility of labour

force and mobile workforce as well as the flexibilisation of the labour market was identified as an opportunity, supplemented by the issue of technological innovation.

Trends which may have been changed during the last programming period were the enhancement of competitiveness and the promotion of innovation and an attractive investment climate; on the other hand, the former analysis identified the dynamic catching-up processes in some new MS as well as the spatial structure of the area as important opportunities.

Threats

The fourth factor of the SWOT-analysis represents the external threats where the issue of a high environmental burden was targeted as well as the increasing occurrences of floods and natural hazards and the uncertainties regarding the impacts of climate change. Supplementary brain drain occurrences of well-educated people in peripheral regions were defined as a main trend for the CE area.

Additionally, structural changes such as depopulation as well as ageing and shrinking regions in general were analysed, going in hand with unfavourable demographic structures and missing jobs as well as discrepancies in the income level. Suburbanisation processes were discussed combined with the tide of increasing commuting activities.

Another tendency represents growing disparities within countries, social and spatial segregation, the different speed of development processes as well as the strong increase of economic and income differences among the regions due to selective flow of foreign direct investments. Additionally the issue of accessibility and transportation, regarding the increasing demand for personal mobility at the expense of public transportation besides the high density and increasing traffic flows were stated.

Additional threats are a high centralisation of innovation activities in urban areas and the intensive land use and dispersed settlement structure in peripheral and rural areas.

Concluding it may be mentioned, that the two SWOTs for the CENTRAL EUROPE Programme show quite a lot of similarities, however the depth of analysis and the approach underlying each of the SWOTs is different, so that there remains a substantial caveat when comparing the two exercises.

4.5 Potentials and barriers the CENTRAL area is facing

For depicting the potentials and barriers the CENTRAL area is facing, the strengths and weaknesses have to be combined with the opportunities and threats. In order to

make this manageable the number of topics describing strengths, weaknesses, opportunities and threats was reduced to about 20 in a workshop with geographical experts of the regions. For the final SWOT-Matrix, the list of external and internal factors was used, which provided an integrated view (see chapter 4.2).

The selection of strengths, weaknesses, opportunities and threats was then analysed and systemic links and ties were defined, presenting coherences between the internal and external factors. This helped to show:

- ▶ Which potentials are resulting from the combination of the internal strengths and weaknesses of the CENTRAL area with the possible opportunities, identified from external strategic documents or current trends?
- ▶ Which barriers and difficulties the CENTRAL area is facing by combining the internal strengths and weaknesses with current threats?

The combination of the different internal and external factors (strengths x opportunities, strengths x weaknesses, threats x opportunities, threats x weaknesses), were then merged to thematic clusters and similar links and ties were grouped together.

The aim of this part of the SWOT analysis was on the one hand to process the strengths, weaknesses, opportunities and threats in an adequate way; on the other hand, the identification of potentials and barriers deriving from the internal and external as well as positive and negative aspects of analysis was a method to gain new options for further development, which may illuminate uncared aspects.

The thematic input for this final part of the SWOT-analysis was gained from the baseline scenario, the analysis of strategic documents and from the on-line survey as well as from the interviews.

The systematic linkages between different internal and external factors were identified during an expert workshop, where the SWOT was discussed and elaborated by the geographical experts involved.

An important issue for the final step of the analysis was the fact, that only issues within the same quadrant of the SWOT-matrix were grouped together.¹⁶⁴ The reason of this clustering within the four quadrants of the SWOT-matrix is the identification of four different groups of potentials and barriers. Due to using the same strengths, weaknesses, opportunities and threats more often than once (to identify different

¹⁶⁴ This means, that only identified ties within e.g. the quadrant strengths x opportunities can be clustered, because these thematic clusters then represent the existing potentials for the area. Clustered linkages deriving from weaknesses and opportunities represent possible potentials. These two types of potentials illustrate different ones, therefore, only clustering within one quadrant is possible.

sorts of potentials and barriers) diverse categories may represent quite similar thematic orientations. Therefore relevant differences exist concerning further regional development:

- ▶ Existing potentials (EP) result from combining the internal strengths of a region with the external opportunities. These potentials can also be termed as “cashcows” (see figure below). EPs represent positive characteristics of a region with positive trends, which can support the already well performing regional characteristics.
- ▶ Possible potentials (PP) result from combining the internal weaknesses of a region with the external opportunities. Possible potentials are also called “rising stars” (see figure below) and illustrate the chance for the CENTRAL EUROPE region to overcome the internal weakness by using the existing opportunities.
- ▶ Existing barriers (EB) result from combining the internal weaknesses of a region with the external threats. EBs can be termed as so-called “poor dogs”, these barriers are a combination of internal and external factors, which are really tough challenges and hard to overcome.
- ▶ Possible barriers (PB) result from combining the internal strengths of a region with the external threats and are also termed “question marks”. These issues show to external trends that can be challenged by using the internal strength of the region. Negative external developments can be turned around by using regional strengths

Figure 36: Potentials and barriers within the SWOT-classification.

SWOT		INTERNAL FACTORS	
		STRENGTHS	WEAKNESSES
EXTERNAL FACTORS	OPPORTUNITIES	<i>cashcows</i> (EP)	<i>rising stars</i> (PP)
	THREATS	<i>questionmarks</i> (PB)	<i>poor dogs</i> (EB)

The method therefore represents a mixture between clustering of information and a more creative technique of combining issues of certain interest. The basis for the clustering of information was mainly the methodology at hand (based on the approach of the Boston Consulting Group – BCG) and on experts’ estimation (SWOT workshop with geographical experts, based on statistical analysis, the review of strategic documents, the on-line survey and the interviews). The combination of issues of interest represents a possibility to process the strengths, weaknesses, opportunities and threats – which were formulated earlier – in an adequate way. It’s an option to develop a base for the future development scenarios and is based on

experts' knowledge combining all the findings and knowledge from the whole territorial analysis.

The table below presents the main findings from the SWOT analysis. There, the identified internal and external factors are listed in the SWOT-Matrix (based on the final one-page SWOT table), the linkages (from the expert workshop) are illustrated, and the grouped similarities are described as potentials and barriers.

...closing gaps between innovative proactive regions and regions with ICT deficits, well connected regions and those with ICT deficits.

21

To be exemplary for these systematic linkages and connections, some illustration can be given: the issues of technology-oriented industries, the increase of clean energy and the use of energy saving technologies correlate with the prioritisation of the baseline scenario and the high ranking issue of R&D as well as with environmental topics such as renewable energies. The issues of ageing and migration are depicted within the weakness of increasing disparities and social polarisation as well as brain drain occurrences which were identified as a main threat for the CENTRAL EUROPE area. The issue of accessibility can be recovered within the weaknesses (e.g. lack of integrated transport systems/lack of multimodality) as well as the issue of employment (partly bad access to services and employment in regions dominated by small villages). The set of opportunities represents the prioritised issues of R&D innovation, employment as well as education.

The identified potentials and barriers are mainly dealing with issues such as accessibility, competitiveness, social polarisation, the environment or the missing regional socio-economic base. The following section describes the identified potentials and barriers and explains them in more detail.

4.5.1 Existing Potential: Technology-oriented areas and destinations for foreign investments and capital flows (EP1)

Within the CE area, growth in business-related services, cross-sectoral and technology-oriented industries can be identified, which is accompanied by a tradition of interregional, transnational as well as cross-border cooperation.

Additionally, the area is located in a specific geopolitical position, which gained positive influence of the former modification of the CE area after the EU-enlargement processes. These strengths, identified within the area, are positively influenced by the issue of the enhancement of competitiveness regulations which trigger especially the development of SMEs.

Furthermore, the support of R&D, technology and innovation besides the promotion of innovation and an attractive investment climate in several regions as well as the fact, that the area is attractive as a destination for foreign investment represent opportunities for further development of the region. These subjects and linkages combined with the specific geopolitical situation are corresponding with competitiveness, the expansion of action radii due to the enlargement processes and the common currency which can reinforce the already existing co-operation across borders (combining bilateral as well as multilateral actions). These co-operative economic activities define technology-oriented areas which are embedded into the global capital flows. This is additionally positively influenced of the policy

support of co-operative economic activities as well as the development of clusters and networks.

Through the enhancement of competitiveness as well as the circumstance that specific regions show high growth rates in business-related services and in cross-sectoral and technology-oriented services, it is assumed, that regions can also benefit from global developments. Furthermore existing benefits of specific geopolitical situations and increasing numbers of foreign investment can support economic growth. Especially co-operative economic activities such as clusters and SMEs may promote innovation and technology-oriented industries. Through the specific geographical situations, competition may enlarge the companies' action radii, benefiting from cooperation and the common currency.

This existing potential dealing with technology-oriented areas and co-operative activities correlates with the thematic objectives "Research, technological development and innovation" as well as "Competitiveness of SMEs".¹⁶⁵

4.5.2 Existing Potential: Specialisation of well-connected, polycentric regions with an emphasis on renewable energy and green industries accompanied by reuse and adaption of brown fields and deprived areas (EP2)

EP2 shows a variety of internal and external factors which can be activated and which may influence each other in a positive way. All in all ten different strengths of the CENTRAL EUROPE area can be linked to external opportunities within different variations. The internal issue of growth in business-related services as well as in cross-sectoral and technology-oriented industries is linked within EP2 with the opportunities of large marginal benefits from technological modernisation, the opportunity of upgrading ICT quality in the wake of the EC goal to bring all Internet connections to the speed of 30 Mbps by 2020 as well as with the EC policy support of co-operative economic activities and the development of clusters and networks. Furthermore, the flexibilisation of the labour market and the support of alternative employment forms through EU funding represent opportunities within EP2. The idea and main finding of this EP are innovative regions, which are technology-oriented, well connected and which are aiming at providing technologically interesting solutions which are following a pro-eco approach (provision of green jobs, eco-innovative research, etc.).

The idea of large marginal benefits from technological modernisation can furthermore be linked to the fact, that in some areas of the CE, high expenses in

¹⁶⁵ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

R&D in urban regions can be identified, which are then target work areas for highly skilled workers. Besides, not only urban but also rural regions show significant R&D activities and define so-called “islands of innovation”. These areas may be supported by the general opportunity of upgrading ICT quality. Good connections to ICT, especially high quality of connection are crucial for innovative industries and provide the base for well-connected regions. Additionally, connections of mobility, such as on-going investments in connections in long-distance transport TEN-T networks as well as high potential multimodal accessibility are main strengths to support the existing potential for the CE area and show a positive tie of opportunity for modernisation.

Supplementary, the increase of renewable energy, such as wind, solar, biomass or geothermal energy potentials is essential to support the implementation of green jobs, which are funded from the European Union and which are also encouraged by the generally increasing awareness about climate change effects and counter measures. Comprehensive activities in the energy sector are important as well, going along with the issue of a low carbon economy. In addition to these matters, the on-going revitalisation of brown fields and deprived areas detects a potential in the development of a more polycentric and balanced settlement structure. The reuse of properties follows the approach of green employments and energy efficient modernisation of areas. The idea behind the reuse of deprived areas is the abandonment of the green field approach chargeable to the sustainable use of environmental resources as well as an energy efficient development of sites, going in hand with eco-innovation and energy efficiency.

Furthermore the flexibilisation of the labour market, alternative employment forms and the creative workforce as an important economic element represent interesting linkages to the development of green jobs, knowledge and counter measures against climate change, following an approach of increasing awareness, lifelong learning and participation in education, supported by permanent exchange of information and data with the help of the European knowledge society (knowledge, cultural values, flexible creative work forms).

With the high level of regional know-how in high-tech services such as renewable energy issues already existing within different well-connected areas of the region, it is possible to increase green employment as well as the possibility for more flexible and alternative employment forms. Besides, it is feasible to use energy efficient and saving technologies through cooperative activities, to reuse existing deprived areas and to develop a more balanced territorial structure, going in-hand with the idea of an energy efficient way of living.

EP2 correlates with the thematic objectives “Research, technological development and innovation”, “Enhancing access to and use and quality of ICT”, “Competitiveness of SMEs”, “Climate change adaptation, risk prevention and management”, “Environment and resource efficiency”, “Sustainable transport and key network

infrastructures”, “Employment and labour mobility” as well as “Education, skills and lifelong learning”.¹⁶⁶

4.5.3 Existing Potential: Tourism and the protection of the environment (EP3)

The existing potential “Tourism and the protection of the environment” (EP3) combines internal strengths such as the richness and diversity of landscape as well as the natural and cultural heritage and regional accessibility with opportunities such as the promotion of a polycentric and balanced territorial development and the opportunity of the EC TEN, improving connectivity in the CE area.

The regional strength of on-going investments in connections in long-distance transport TEN-T networks can be linked with the opportunity of a polycentric structure and the EC TEN strategy in general.

Furthermore tourism was identified as a main opportunity to balance regional disparities and job creation. This opportunity can be lined with the regional strengths, ranging from the richness and diversity of landscape and the existing natural and cultural heritage as important location factors, a good accessibility of regions based on TEN investments as well as the existing diversity of cultures and population. Further opportunities are the tradition of transnational and cross-border cooperation, revitalised areas (e.g. in urban centres) and the existing cooperation on institutional, political and administrative level.

Especially tourism in combination with its ability to improve regional attractiveness can be linked with rehabilitated built infrastructure, urban centres and sub centres; in addition to this, the revitalisation of brown fields and deprived areas as well as the richness of landscape supports touristic development. It's assumed, that an environment, which is protected as well as fostered and used in a sustainable way, is generally more attractive for touristic use. Besides, polycentric development may support the appropriate usage of landscape (e.g. embankment of sealed soil), which may be supported by additional connections of top-down and bottom-up initiatives and multilevel governance. A supplementary issue – for the protection of the environment and the provision of the existing economic base – illustrates Cohesion Policy focusing on environmental infrastructure, ranging from clean drinking water supply, waste management and waste water treatment to the EU policies (environment and CAP) supporting the establishment of a high proportion of protected areas underlining the importance of the diversity and richness of landscape. These policies are again supporting the touristic use of the area, combined with the protection of the environment on different levels.

¹⁶⁶ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

The construction of the TEN-networks as well as the increasing accessibility of (peripheral) regions improves the opportunities of former marginalised areas catching-up. Furthermore, the improvement of accessibility and the already existing specific benefits of the geographically attractive locations of the region increase the attractiveness of the area.

A well protected environment – equipped with specific environmental infrastructure – and the containment of increasing land use – mainly due to enhanced reuse of deprived areas and brown fields – preserve the richness and diversity of the landscape, which is one main location as well as economic factor of the touristic use of the region. A key concern is the balanced development of settlement structures following a polycentric approach, based on a connection of both – top-down as well as bottom-up – initiatives within planning and governance.

The third existing potential “Tourism and the protection of the environment” can be mainly associated with the thematic objectives “Sustainable transport and key network infrastructures” and “Environment and resource efficiency”.¹⁶⁷

4.5.4 Possible Potential: Co-operative initiatives and cluster development reducing access and employment deficits in peripheral regions (PP1)

The possible potential PP1 “Co-operative initiatives and cluster development reducing access and employment deficits in peripheral regions” combines seven main weaknesses of the CENTRAL EUROPE area with seven external opportunities, aiming specially at the future development of peripheral regions. The combination of opportunities and weaknesses may create a possible and achievable potential for the future development of the regions at hand.

The CE area is marked by bad accessibility to service and employment in regions which are dominated by small villages and sparse population. In addition, the activity rate is low and the number of (youth) unemployment is increasing; so is the risk of poverty. This reinforces strong economic disparities which do exist between CE regions as well as inequalities in GDP. Additionally, the access to finance is out of line with current needs, especially for start-ups and small loans (micro credit), which are of high importance, especially for small and medium enterprises.

These internal weaknesses can be combined with the opportunity of the policy provision of co-operative economic activities such as the development of clusters and networks as well as the opportunity/issue of tourism as a tool to balance regional disparities and job creation. Furthermore the flexibilisation of the labour market with the support of alternative employment forms through EU funding and

¹⁶⁷ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

the increase in green employment and eco-innovations may be opportunities, which may reveal possible potentials of development.

Moreover improved connections – on various levels – can be positively linked with the current situation of unemployment rate and poverty, increasing accessibility, coming along with new employment opportunities.

Other weaknesses at hand represent disadvantages for ethnic minorities and polarisation; these issues can be positively linked with the fact, that the CE area is an attractive area for foreign investment (in particular cities and agglomerations in CE) and increasingly embedded into global flows, providing new options for a multicultural society.

Besides, the maturity of the European knowledge society and the exchange of knowledge and cultural values may influence positively the increasing number of youth unemployment on the one side and the risk of poverty on the other side. Knowledge transfer in marginalised regions may encourage new developments (employment, education, innovation-transfer, etc.).

Through improved accessibility, the adaption of alternative employment forms, green employment, eco-innovation and additional foreign investment within the regions, positive stimuli may increase employment and help improving the access to services; this avoids the regional risk of poverty and an increase in social diversity and polarisation.

Especially for rural areas and small villages with the disadvantage of bad access to service and employment, cross-border and transnational co-operation can initiate positive regional development; these issues – also in combination with tourism – can display possible development potentials, overcoming unemployment and low activity rates by reason of increasing regional attractiveness and raising opportunities.

The possible potential PP1, correlates with the thematic objectives “Competitiveness of SMEs”, “Sustainable transport and key network infrastructures”, “Employment and labour mobility” and “Social inclusion and combating poverty”.¹⁶⁸

4.5.5 Possible Potential: Technological modernisation and polycentric development to increase accessibility and adapt connections and networks (PP2)

The PP2 “Technological modernisation and polycentric development to increase accessibility and adapt connections and networks” links three main weaknesses of

¹⁶⁸ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

the CE area with a number of opportunities; it discusses the weak local, regional and transnational accessibility especially outside of agglomeration areas and in the new MS combined with the lack of integrated transport systems and multimodality, the low quality of public transport, the decreasing share of public transport as well as missing road links and border-crossings in many peripheral regions. Additionally the sectoral and spatial inequalities of ICT-infrastructure are defined as a main weakness within the area.

The lack of integrated transport systems and multimodality can be linked with the expansion of action radii due to enlargement processes of the EU. Supplementary, the area is attractive as a destination for foreign investment, particular CE cities and agglomerations, and it is increasingly embedded into global flows. Large marginal benefits from technological modernisation illustrate another extern opportunity for further developments.

The weak accessibility on various levels in addition to the missing transport links bears a relation to the construction of long-distance connections. These new constructions and modernisations of infrastructure, may on the one hand have an impact on polycentric development within specific areas, on the other hand, construction workers are needed and accessibility will be approved: these conditions may support an increase in employment and innovation.

Generally spoken, the adaption of the transport system may increase multimodality and create a more integrated system of transport (provision through the opportunity of improving connectivity in the wake of EC TEN); especially in consequence to transport technology modernisation, regional as well as transnational disadvantages may be eradicated. The adaption of transport infrastructure and the possibility of a more integrated transport system create development options for a polycentric spatial structure, which paired with better accessibility in public transport may increase overall accessibility in peripheral areas.

This possible potential dealing with technological modernisation and polycentric development correlates mainly with the thematic objective “Sustainable transport and key network infrastructures” accompanied by the objective “Enhancing access to and use and quality of ICT”.¹⁶⁹

¹⁶⁹ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

4.5.6 Possible Potential: Involvement of peripheral, former marginalised regions in development and progress (PP3)

The possible potential “Involvement of former peripheral, marginalised regions in development and progress” – PP3 combines one main weakness of the area with a number of opportunities and points out mainly the position of marginalised peripheral areas, which have insufficient access to services (e.g. health care etc.) and high unemployment.

There exist achievable potentials due to the opportunities of the promotion of innovation and an attractive investment climate in several regions, large marginal benefits from technological modernisation, tourism in general as a tool to balance regional disparities and job creation, the support of co-operative economic activities, such as clusters, the EC TEN-network construction and the establishment of a high proportion of protected areas. Besides this variety of opportunities, positive linkages between the development of a polycentric and more balanced spatial structure and the (former) marginalised peripheral areas can be detected.

Better accessibility and technological modernisation illustrate a possible direction of development of former marginalised regions with the help of transnational cooperation. Enhanced expansion of tourism and co-operative networks as well as the improvement of cross-border and long distance connections offer new opportunities and regional development options. Marginalised regions – both in terms of accessibility and employment opportunities – may benefit from alternative employment forms and a more flexible labour market in addition to the improvement of cross-border connections and co-operations. The development of clusters and networks, represents an important opportunity (through the policy support of co-operative economic activities), which may be one important point, representing the unique position of marginalised, peripheral areas and one possible process of change.

The possible potential PP3, correlates with the thematic objectives “Research, technological development and innovation”, “Competitiveness of SMEs”, “Sustainable transport and key network infrastructures”, “Employment and labour mobility” and “Social inclusion and combating poverty”.¹⁷⁰

¹⁷⁰ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

4.5.7 Existing Barrier: Increasing lagging behind of peripheral, badly accessible regions (EB1)

The “Increasing lagging behind of peripheral, badly accessible regions” (EB1) points out the combination of several weaknesses and threats. It illustrates already existing barriers of development.

Main weaknesses identified within the CE are the partly low level of R&D in several (rural) regions as well as the insufficient technology transfer and lack in the access to R&D-results especially for SMEs. Furthermore, the insufficient access to services and employment especially in peripheral areas and in regions dominated by small villages being accompanied by high numbers of (youth) unemployment. Supplementary, the accessibility is low – especially outside of agglomerations – and strong economic disparities in GDP can be identified (core-periphery pattern).

These weaknesses can be linked with a number of threats, such as the lack of competitiveness, increasing embeddedness into global capital flows, which may threaten local market potentials, as well as the lack of investments in local infrastructure. These threats do not support the already existing deficits concerning R&D, accessibility, transportation and employment, but represent a major barrier for further development.

Additionally brain drain of young and creative people as well as increasing market competition, the pressure on economic productivity and disadvantages of peripheral areas (shrinking regions, depopulation etc.) represent major threats for the further development of the area. Underlying phenomena of demographic change such as the ageing society, shrinking population, brain drain occurrences and strong economic disparities – already existing in some peripheral regions – are being intensified and positive development gets aggravated.

Regions, which are already disadvantaged and which record a very low level of R&D, cannot stand the increasing economic pressure on productivity and increasing demands on transportation or accessibility in general.

The existing barrier EB1 can be linked with the thematic objectives “Research, technological development and innovation”, “Competitiveness of SMEs”, “Sustainable transport and key network infrastructures“, „Employment and labour mobility” and “Social inclusion and combating poverty”.¹⁷¹

¹⁷¹ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

4.5.8 Existing Barrier: Raising social polarisation due to demographic change and lack of investment in peripheral areas (EB2)

The existing barrier “Raising social polarisation due to demographic change and lack of investment in peripheral areas” – EB2 combines seven internal weaknesses with four external threats and combines therefore a variety of internal and external factors.

Especially the issue of an ageing population defines negative linkages to internal weaknesses, such as the increasing (youth) unemployment and poverty. The increasing social diversity as well as demographic change increase problems of financing social and technical infrastructure especially in shrinking regions.

Furthermore there exist disadvantages for ethnic minorities such as social problems including lower levels of education and high rates of unemployment, making catching-up processes difficult.

The issue of a relatively weak civil society as well as the variety of administrative systems and outdated public administration may be linked to the decreasing investments in infrastructure; furthermore the outdated system of public administration is again influenced negatively by bad accessibility and brain drain occurrences in peripheral regions. The weakness of marginalised peripheral areas can be linked to depopulation tendencies, shrinking regions and brain drain occurrences as well.

Demographic change and the phenomenon of an ageing society (in CE) as well as the disadvantage of peripheral areas (agglomeration advantages of cities tend to represent disadvantages for rural/peripheral regions) harden the already existing contrasts between urban and rural areas. Increasing disparities and the risk of poverty are tightened by shrinking regions. The intensified marginalisation tendencies do not attract investments or innovation within the public administration system or important transportation links (to increase accessibility of these marginalised regions).

The increasing number of (youth) unemployment leads to rising brain drain occurrences within peripheral regions, well-educated employees without job-opportunities prefer urban agglomerations and their advantages – which on the other hand illustrate disadvantages for rural or peripheral areas. This tendency supports demographic change in a negative way – the ageing of the society in general and the emigration of young well-educated employees outlines simultaneously the loss of regional know-how and experience.

The already mentioned brain drain occurrences, high figures of unemployed as well as tendencies of a weak situation of the civil society raise previously existing marginalisation tendencies of peripheral and disadvantaged regions.

EB2 shows linkages to the thematic objectives “Low-carbon economy in all sectors”, “Environment and resource efficiency” as well as “Social inclusion and combating poverty”, “Employment and labour mobility” and “Institutional capacity and efficient public administration”.¹⁷²

4.5.9 Existing Barrier: Environmental disasters and up-coming development restrictions in consequence of negative effects of climate change and demanding consumption patterns (EB3)

The existing barrier EB3, termed “Environmental disasters and up-coming development restrictions in consequence of negative effects of climate change and demanding consumption patterns”, combines mainly three weaknesses: High level of land consumption combined with existing land use conflicts as well as bad air quality and high ozone concentrations in cities, bad water quality of rivers and lakes in certain regions (eutrophication) and the lack of quality and quantity of environmental infrastructure in specific regions (waste and water treatment).

Threats identified which may be combined with these weaknesses in a negative way are the currently existing lifestyles in “mature” economies and the catching up processes in new MS which lead to increased energy demand. Other issues are the increase of the minimum temperature as well as climate change and its effects on the natural environment, such as on-going desertification and increasing aridity. Furthermore natural hazards and floods occur increasingly often and environmental resources are used for economic activities in an unsustainable way.

The issue of an increasing level of land consumption correlates negatively with environmental issues, such as waste water treatment and air and water quality. Besides, the water balance is coherent with increasing occurrences of floods and natural hazards as well as with the negative effects of climate change.

In addition, the on-going desertification and the increasing aridity as well as the increasing occurrences of natural hazards are moreover stressing the already existing bad quality of water, being accompanied by climate change. Regions, which display the weaknesses at hand, are not representing adapted regions to climate change, it's assumed, that especially environmental weaknesses (water, air, etc.) increase the vulnerability of regions towards climate change.

¹⁷² COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

The third existing barrier is correlated with the thematic objectives of “Climate change adaptation, risk prevention and management” and “Environment and resource efficiency”.¹⁷³

4.5.10 Possible Barrier: Loss of attractiveness of high valued regions by reason of environmental quality decline, demographical change and lack of investment (PB1)

The possible barrier “Loss of attractiveness of high valued regions by reason of environmental quality decline, demographical change and lack of investment” PB1 combines a variety of six strengths and a number of threats. The tradition of interregional, transnational and cross-border cooperation on institutional, political and administrative level and within projects can be negatively influenced by a lack of investments in regional infrastructures which increases the core-periphery disparities as well as the phenomenon of ageing, brain drain occurrences and disadvantages of rural areas due to agglomeration advantages of cities.

This issue can also be linked strongly to the strengths of growth in business-related services, cross-sectoral and technology-oriented industries as well as to the benefits of specific geopolitical situations and modifications for border regions after the EU-enlargement. This strength as well as the cross issue of co-operation in general also correlates negatively with missing investment in regional infrastructures. The issue of the richness and diversity of landscape and natural and cultural heritage as important location factors are endangered by on-going desertification and increasing aridity as well as by negative effects of climate change and unsustainable use of environmental resources. Furthermore these strengths can – linked with aridity as well as with natural disasters – represent a possible barrier.

In regions of high co-operation tradition (on both levels, cross-border as well as trans-national), which can benefit from their specific geopolitical situation and which co-operate in several sectors, especially the lack of investments on missing links between regions as well as the phenomenon of shrinking and ageing regions can be disadvantageous for further development.

Furthermore, brain drain occurrences due to missing job opportunities for well-educated employees in addition to the phenomenon of an ageing society may endanger the regional development as well.

Regions which are oriented towards their touristic potentials and the richness and diversity of landscape and nature are endangered by natural disasters, climate

¹⁷³ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

change and its effects such as increasing aridity. This affects the entire natural and cultural heritage, which represents an important location factor for tourism usage.

The possible barrier dealing with environmental quality and demographic change, may be linked to the thematic objectives of “Climate change adaptation, risk prevention and management”, “Environment and resource efficiency” as well as “Employment and labour mobility”.¹⁷⁴

4.5.11 Possible Barrier: Brain drain occurrences due to disadvantages of shrinking areas (PB2)

The possible barrier “Brain drain due to disadvantages in shrinking areas” – PB2 is based on the strength of revitalised brown fields and deprived areas combined with already rehabilitated built infrastructure, housing estates, urban centres & sub centres. This regional strength of the CENTRAL EUROPE area can be negatively influenced by suburbanisation processes and the ageing society – issues such as the increasing number of depopulated areas and the increasing contrasts between urban and rural areas were identified as relevant linkages of a possible regional barrier.

Furthermore the increasing level of education, lifelong learning as well as female education participation and the consequence of a qualified workforce can cushion the negative effects of an ageing population. Another strength, which may be threatened by brain drain occurrences in peripheral areas, is the issue of the high level of experience and know-how in high-tech services (e.g. for renewable energy) which is available.

For development, these identified connections may illustrate a constant danger of demographic processes. Regions, in which a very high level of experience – mainly on renewable and clean energy – exists, may be endangered by demographic processes such as shrinking population and brain drain occurrences. The regionally and locally existing knowledge of employees will be at risk. If a region, which is partly based on the experience and know-how of its employees, is scarred by an ageing society and declining opportunities, the trend of shrinking population figures and emigration may be an important and challenging issue. Already rehabilitated built infrastructure and centres may be affected by depopulation because urban areas as well as suburban areas are more attractive due to their job and employment opportunities.

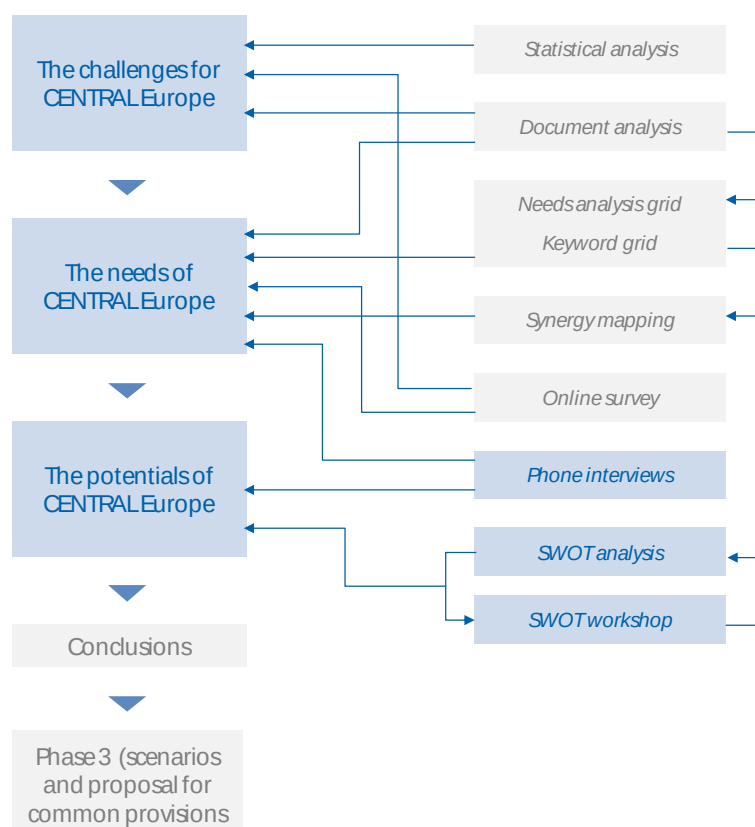
¹⁷⁴ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

The final barrier PB2 correlates with the thematic objectives “Education, skills and lifelong learning”, “Research, technological development and innovation” and “Social inclusion and combating poverty”.¹⁷⁵

4.6 Summing up the potentials of CENTRAL EUROPE

The information fed into a SWOT analysis was stemming from the analysis of the baseline situation (the ‘challenges’ of CENTRAL EUROPE) and the enquiry of options to address these challenges (the ‘needs’ of CENTRAL EUROPE), as well as from primary data collection via an online survey and stakeholder phone interviews (cf. Figure 37).

Figure 37: Course of the analysis: elements of the analysis of potentials



The SWOT analysis has produced eleven aggregated potentials for a CENTRAL programme that can be divided into four ‘meta’ aggregates:

1. Strengthening CENTRAL EUROPE’S existing strengths

¹⁷⁵ COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework.

- ▶ Technology-oriented areas and destinations for foreign investments and capital flows
- ▶ Specialisation of well-connected, polycentric regions with an emphasis on renewable energy and green industries accompanied by reuse and adaption of brown fields and deprived areas
- ▶ Tourism and the protection of the environment

2. Making use of CENTRAL EUROPE'S available potentials

- ▶ Co-operative initiatives and cluster development reducing access and employment deficits in peripheral regions
- ▶ Technological modernisation and polycentric development to increase accessibility and adapt connections and networks
- ▶ Involvement of peripheral, former marginalised regions in development and progress

3. Removing CENTRAL EUROPE'S existing barriers

- ▶ Increasing lagging behind of peripheral, badly accessible regions
- ▶ Raising social polarisation due to demographic change and lack of investment in peripheral areas
- ▶ Environmental disasters and up-coming development restrictions in consequence of negative effects of climate change and demanding consumption

4. Averting CENTRAL EUROPE'S possible threats

- ▶ Loss of attractiveness of high valued regions by reason of environmental quality decline, demographical change and lack of investment
- ▶ Brain drain due to disadvantages of shrinking areas

In the next step (in phase three), these potentials will be cast into future programme priority scenarios and tested for their impact on the CENTRAL EUROPE space.

5. Next steps

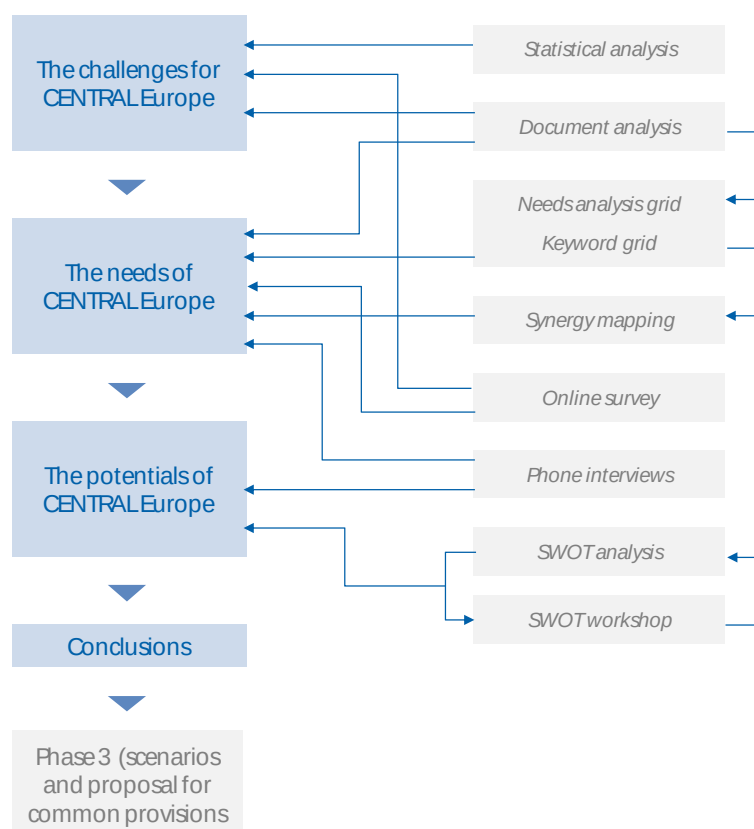
With this chapter we intend to close the loop of this territorial analysis on challenges, needs and potentials and return to the underlying EU Draft Regulation forming the backbone of the future CE programme. So far we have thoroughly analysed the territorial situation of the CENTRAL programming area and collected the “needs” as stipulated by policy and stakeholders in its regions. This assessment has been channelled through a comprehensive SWOT analysis.

In the next step it will be necessary to bring back these analyses into a recommendation for future thematic objectives of the CENTRAL Programme 2014+. This means that in a final analytical step the results of the territorial analysis as well as the results of the SWOT will have to be “translated” into a prioritisation and short list of the eleven thematic objectives as stipulated in the Draft Regulation. This step will be necessary due to the following reasons:

- ▶ Thematic objectives will allow for a “common language” and understanding in the upcoming steps of this CENTRAL programming process. As the ultimate aim of this process will be to select the thematic objectives of the future CENTRAL Programme, any future analytical step will have to use the vocabulary which goes in line with the wording, which will be used in the future programme as well.
- ▶ Necessity to reduce the number of the eleven objectives due to the requirement as stipulated in Regulation COM(2011) 615, whereas only up to four objectives will be allowed within Transnational Cooperation Programmes.
- ▶ The upcoming Phase 3 of the preparation of the future CENTRAL Programme will try to pinpoint more precisely the strategic orientation of the programme. For this, a set of spatial scenarios shall be developed in order to depict the potential territorial effects the future CENTRAL programme may have. The scenarios will be set up upon possible thematic orientations of the programme, which themselves shall be reflecting as much as possible the future thematic objectives as required by the EU regulations. Thus it is necessary to use a selection of these objectives as starting point for formulating the scenarios.

The prioritization of thematic objectives for the CE area will be conducted by representatives of the Steering group in the Synergy Workshop, based on their relevance to the transnational programme and experiences from the previous programming period. In Phase 3, the potential territorial effects of this selection of objectives will be depicted in thematic maps.

Figure 38: Course of the analysis: conclusions



This report has the aim to constitute the reference baseline for the territorial cohesion scenarios to be proposed and implemented by a future transnational programme for the area. In line with this task we have analysed the CE programming area in terms of its current territorial challenges and status. The main traits of the area are that there is hardly any programming area in the EU with higher disparities and varieties of socio-economic conditions. On the other hand, there is no other area in the EU representing the bridge and hinge function between the EU and the neighbouring countries. Still this geo-political position also creates the challenge of periphery with all its disadvantages for some of its parts.

These interim conclusions that lead over to the synergy workshop and the scenario analysis of potential future priorities bring together the three strands of the analysis:

- ▶ The challenges CENTRAL EUROPE is facing;
- ▶ The needs that the stakeholders in the CE area manifest to be able to give answers to these challenges
- ▶ The strength, weaknesses, opportunities and threats of CENTRAL EUROPE;

Each of these steps of analysis has brought about results, which shall now be aggregated in a way that a first prioritisation of the thematic objectives – as stipulated in the draft regulation COM/2011/615 – will be possible. With

- ▶ the territorial challenges presenting the evident space for the territorial condition and baseline of CENTRAL EUROPE,
- ▶ the needs analysis presenting the awareness and potential answers to these challenges and depicting thematic aspirations of the stakeholders of the CE programme,
- ▶ the SWOT analysis presenting an aggregated set of strengths, weaknesses, opportunities and threats of the CE area, as well as a very detailed description of territorial settings, where potentials and barriers are to be found.

The selection of thematic objectives will be conducted in a synergy workshop with representatives of the Steering group. This identified short list of thematic objectives will be the entry point to the next phase of this study. In Phase 3, the selected thematic objectives will be broken down into more concrete fields of intervention and possible thematic orientation scenarios of a future CENTRAL programme will be formulated.

Still the final decision of the contents and interventions of the CENTRAL 2014+ programme will have to be conducted in the phase of the actual programming of the CENTRAL 2014+ Programme, as only then the final decisions of the EU Regulations concerning the eligibility and the precise definition of investment priorities will be known.

The thematic objectives will constitute the “extreme” potential orientation (in terms of funding priorities) of the single scenario. The selected thematic objectives will therefore correspond to funding priority scenarios, which will lead to various territorial effects related to them. The territorial effects will be depicted for selected relevant indicators (e.g. economic growth, employment, etc.) and mapped so that the differences between the scenarios become visible.

Annex 1: Bibliography

Ache P., Hill A., Höweler M., Peters S. (2006): Governance of territorial and urban policies – ESPON 2.3.2 project, Institut für Raumplanung, Dortmund.

AEA Energy & Environment Group (2006): Adaptation to Climate Change in the Agricultural Sector. Universidad de Politécnica de Madrid.

URL:

http://ec.europa.eu/agriculture/analysis/external/climate/final_en.pdf
(19/06/2012).

Are EU SMEs recovering from the crisis? Annual Report on EU Small and Medium sized Enterprises 2010/2011. Rotterdam, Cambridge, 2011

Bański J., Ferenc M. (2012): Kilka uwag na temat międzynarodowych czasopism geograficznych ze szczególnym uwzględnieniem artykułów z zakresu geografii społeczno-ekonomicznej (unpublished)

Barca F. (2009): AN AGENDA FOR A REFORMED COHESION POLICY: A place-based approach to meeting European Union challenges and expectations; Independent Report prepared at the request of Danuta Hübner, Commissioner for Regional Policy; Brussels

Bauby P., Similie M.M. (2010): Public Services in the European Union. Public Services in the 27 Member States. Statistics, Organisation and Regulations, Study commissioned in the framework of the “Mapping of the Public Services” project managed by the CEEP, with the support of the European Commission

Blais, E.; Liepa, B.(2012): What are macro-regions all about? INTERACT. URL: <http://www.interact-eu.net/downloads/4788/Newsletter%2520%257C%2520January%25202012%2520%257C%2520Full%2520Edition.pdf> (20/06/2012).

CABERNET (2010): Brownfield Definition. URL: <http://www.cabernet.org.uk/index.asp?c=1134> (25/06/2012).

CENTRAL EUROPE (2011): CENTRAL EUROPE. Cooperating for Success. Operational Programme

CENTRAL Europe (2011): Report – Contribution of the CENTRAL Europe Programme to the future transnational cooperation 2014+; JTS CENTRAL Europe; Vienna

CENTRAL EUROPE PROGRAMME, Annual Report 2010 – Summary, European Regional Development Fund. EU

Climate change impacts in Europe, Final Report for the PESETA research Project, JRC, European Commission, 2009.

Cohen D. (2006): Globalization and its enemies; MIT Press; Cambridge, Mass. [u.a.]

COM(2011) 31: Renewable Energy: Progressing towards the 2020 target.

COM(2011) 611 final: Proposal for a Regulation of the European Parliament and of the council on specific provisions for the support from the European Regional Development Fund to the European territorial cooperation goal.

COM(2011) 614: Proposal for a Regulation on specific provisions concerning the European Regional Development Fund and the Investment for growth and jobs goal and repealing Regulation (EC) No 1080/2006

COM (2011) 615 final/2, Article 9: Thematic objectives for the CSF Funds and Common Strategic Framework

Commission of the European Communities, Directorate-General for Economic and Financial Affairs (EC 2009-1), 'Impact of the current economic and financial crisis on potential output', EUROPEAN ECONOMY. Occasional Papers No 49. 2009.

Corruption Perception Index 2010. Report. Transparency International. Germany 2010

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the Assessment and Management of Flood Risks.

Directorate-General for Agriculture and Rural Development (2008): Rural Development in the European Union. Statistical and Economic Information. Report 2008.

Directorate-General Energy and Transport (2009): Study on the Energy Savings Potentials in EU Member States, Candidate Countries and EEA Countries, Final Report for the European Commission. URL:
http://ec.europa.eu/energy/efficiency/studies/doc/2009_03_15_esd_efficiency_potentials_short_report.pdf (19/06/2012)

Directorate-General Environment (2012): Review of the Thematic Strategy on the prevention and recycling of waste. URL:
<http://ec.europa.eu/environment/waste/strategy.htm> (09/07/2012)

Długosz Z., Raźniak P. (2008): Population movement and changes in population in European countries. Present state and perspectives. Bulletin of Geography – Socio-economic. Series 10.

Dühr, S. (2011): Macro-regional cooperation in the European Union: challenges for territorial and functional governance. RSA Winter Conference 2011 London, 25 November 2011.

ECNC et.al. (2007): Scenar 2020: scenario study on agriculture and the rural world; contact study commissioned by DG Agriculture, Directorate G: economic analysis and evaluation; Brussels.

EEA (2003): Europe's water: An indicator-based assessment. Copenhagen: 2003. URL: http://www.eea.europa.eu/publications/topic_report_2003_1 (09/07/2012)

EEA (2005): The European environment – State and outlook 2005. URL: http://www.eea.europa.eu/publications/state_of_environment_report_2005_1 (09/07/2012)

EEA (2007): The road from landfilling to recycling: common destination, different routes. Luxembourg: 2007. URL: http://www.eea.europa.eu/publications/brochure_2007_4 (09/07/2012)

EEA (2012): Surface Water Viewer. URL: <http://www.eea.europa.eu/themes/water/interactive/soe-wfd/wfd-surface-water-viewer> (09/07/2012)

EEA (2012): Groundwater Viewer. URL: <http://www.eea.europa.eu/themes/water/interactive/soe-wfd/wfd-ground-water-viewer> (09/07/2012)

EEA (2007): Estimating the environmentally compatible bioenergy potential from agriculture. EEA Technical report No 12/2007.

EEA (2009): Europe's onshore and offshore wind energy potential. An assessment of environmental and economic constraints. EEA Technical report No 6/2009.

EEA (2012): Estimated allocation of public and private expenditures for management of contaminated sites by country. URL: <http://www.eea.europa.eu/data-and-maps/figures/estimated-allocation-of-public-and-private-expenditures-for-management-of-contaminated-sites-by-country> (25/06/2012).

EEA (2012b): Use of freshwater resources. URL: <http://www.eea.europa.eu/data-and-maps/indicators/use-of-freshwater-resources/use-of-freshwater-resources-assessment-2#toc-1> (25/06/2012).

Entrepreneurship in the EU and beyond. A survey in the EU, EFTA countries, Croatia, Turkey, the US, Japan, South Korea and China. Analytical report. Fieldwork: December 2009.

ESPON (2006): ESPON Project 3.2. Spatial Scenarios and Orientations in relation to the ESDP and Cohesion Policy – Final Report, Volume 3: Final Thematic Bases and Scenarios; Brussels

ESPON (2006): ESPON project 2.3.2. Governance of Territorial and Urban Policies from EU to Local Level. Final Report.

ESPON (2011): Territorial Observation No. 5. Territorial Dynamics in Europe. The Creative Workforce.

ESPON (2010): Applied Research 2013/1/5. ReRisk. Regions at Risk of Energy Poverty.

ESPON (2009): DEMIFER – Demographic and migratory flows affecting European regions and cities. Applied Research Project 2013/1/3. Interim Report.
http://www.espon.eu/export/sites/default/Documents/Projects/AppliedResearch/DEMIFER/demifer_interim_report-29_04-09.pdf

European Commission (2006): Proposal for a Directive of the European Parliament and of the Council on environmental quality standards in the field of water policy and amending Directive 2000/60/EC. URL: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0397:FIN:EN:PDF> (09/07/2012)

European Commission (2010): Commissions Staff Working Document. Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the Thematic Strategy on the Prevention and Recycling of Waste. Brussels, 2010. URL: <http://ec.europa.eu/environment/waste/pdf/Commission%20Working%20Doc.pdf> (09/07/2012)

European Commission (2010): Energy 2020. A strategy for competitive, sustainable and secure energy, Brussels

European Commission (2010): European Union Strategy for the Danube Region. Action Plan. SEC (2010) 1489. URL: <http://www.danube-region.eu/pages/what-is-the-eusdr> (27/06/2012).

European Commission (2010): Flexible working time arrangements and gender equality – A comparative review of 30 European countries. URL: <http://ec.europa.eu/social/home.jsp?langId=en> (19/06/2012).

European Commission (2011): Demography report 2010. Older, more numerous and diverse Europeans. URL: <http://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=5936&furtherPublications=yes> (19/06/2012).

European Commission (2012): European Union Strategy for the Baltic Sea Region. COM (2012) 128 final. URL: http://ec.europa.eu/regional_policy/sources/docoffic/official/communic/baltic/comm_baltic_2012_en.pdf (27/06/2012).

The European Cluster Observatory (2011): Europa Innova Paper N° 16: Priority Sector Report: Creative and Cultural Industries. URL: http://www.europe-innova.eu/c/document_library/get_file?folderId=18090&name=DLFE-12822.pdf (19/06/2012)

European Parliament (2011): Measures to promote the situation of Roma EU citizens in the European Union. Study. URL: <http://www2.lse.ac.uk/businessAndConsultancy/LSEConsulting/pdf/Roma.pdf> (19/06/2012).

European Technology Platform (2006): Smart Grids. Vision and Strategy for Europe's Electricity Networks of the Future.

Eurostat regional yearbook 2011, European Union, 2011

Hesselbjerg Christensen et al.: Regional Climate Projections.

ICPP, online (2012): Some Key features of Climate Scenarios for Europe. URL: <http://www.ipcc.ch/ipccreports/tar/wg2/index.php?idp=495> (09/07/2012)

ICPP (2000): IPCC Special Report. Emissions Scenarios. Summary for Policymakers. A Special Report of IPCC Working Group III. Published for the Intergovernmental Panel on Climate Change. 2000.

Kukliński A., Pawłowski K. (edit., 2006): Przyszłość Europy Wyzwania globalne. Wybory strategiczne, Wyższa Szkoła Biznesu – National-Louis University, WSBNLU–Nowy Sącz, Rewasz–Pruszków.

Kukliński A., Skuza B. (edit., 2003): Europe in the perspective of global change : in memoriam of professor Kazimierz Secomski, Oficyna Wydawnicza Rewasz : Polish Association for the Club of Rome, Warsaw.

McQuaid R. (2000): "Implications of European Union Expansion for Peripheral Regions", Regional Cohesion and competition in the age of globalization, Kohno H., Nijkamp P., Poot J. (Eds),

Nordregio (2005): Potentials for polycentric development in Europe. Project report. ESPON 111. Stockholm

Nordregio (2009): EU macro-regions and macro-regional strategies – A scoping study. NORDREGIO ELECTRONIC WORKING PAPER 2009:4

Observatory of European SMEs. Summary. Fieldwork of the survey: November 2006 – January 2007

ÖIR et al. (2012): Infrastructure for Renewable Energies: A Factor of Local and Regional Development.

ÖIR et al. (2011): Regional Challenges in the Perspective of 2020 – Phase 2: Deepening and Broadening the Analysis; research study Commissioned by European Commission, Directorate General for Regional Policy, Unit C1 Conception, forward studies, impact assessment; Vienna/Heisdorf/Bonn.

Rehman, S. (2010): Promoting Social Cohesion in the Asia Region: Lessons from the EU Experience. Centre for Policy Dialogue (CPD). URL: http://ec.europa.eu/europeaid/where/asia/regional-cooperation/support-regional-integration/asean/files/rsobhan_social_cohesion.pdf (19/06/2012).

Reuters (2009): FACTBOX – 18 countries affected by Russia-Ukraine gas row. www.reuters.com. 7 January 2009

Russo, A. and Quagliari, A. (2011): Creative Workforce in Europe: territorial patterns and Effects.

Samecki, P. (2009): Discussion Paper on Macro-regional strategies in the EU. http://ec.europa.eu/regional_policy/cooperate/baltic/pdf/macroeconomic_strategies_2009.pdf

State secretariat for the public service, Directorate-general of the public service (2010): Public employment in European Union member states. Madrid

Terem P., Çaha Ö. (edit., 2005): Process of EU enlargement in the 21st century – new challenges, Faculty of Political Sciences and International Affairs University of Matej Bel, Banská Bystrica, Faculty of Economic and Administrative Sciences Fatih University Istanbul. Banská Bystrica : Faculty of Political Sciences and International Affairs University of Matej Bel ; Faculty of Economic and Administrative Sciences Fatih University: Istanbul.

Territorial Agenda of the European Union (2005): The Territorial State and Perspectives for the European Union, Towards a Stronger European Cohesion in the Light of the Lisbon and Gothenburg Ambitions.

Tomic, D.; Herbst, C.; Sösemann, K.; Keller, K.; Loulova, E.; Moonontsagaan, B. (2007): Roma in Osteuropa. Transformation des Romabildes im wissenschaftlichen Diskurs. Samizdat, Berlin. URL: http://www.oei.fu-berlin.de/Projektkurse/2006_7/reinventing/teilprojekte/roma/roma_in_osteuropa_studie.pdf (19/06/2012).

University of Valencia (2005): Governance of territorial and urban policies from EU to local level. ESPON Project 2.3.2. Second Interim Report. Submitted by University of Valencia, Lead Partner for ESPON 2.3.2. March 2005.

URBANS SMS – Soil Management Strategy (2012): Core Outputs. URL: <http://www.urban-sms.eu/urban-sms-project/projects-results/#c16862> (27/06/2010).

Wolleb G., Daraio A. (2009): Regional Challenges in the Perspective of 2020. Regional Disparities and Future Challenges, A report to the Directorate-General for Regional Policy. Unit Conception, forward studies, impact assessment, ISMERI Europa.

Sources:

EUROSTAT

World Bank

DG TREN, European Union Trade and Development

www.cia.gov

<http://ukrstat.org/en> – Official state statistical service for Ukraine

Annex 2: Questions of the online survey

1. Where do you come from?

a) Country of origin

b) Which region(s) do you represent respectively which region(s) do you have in mind answering the following questionnaire

c) the organisation you come from/work(ed) for can be categorized as

- ▶ 1|National, public authorities
- ▶ 2|regional and local public authorities
- ▶ 3|Other relevant regional public multipliers (e.g. innovation and development agencies and foundations)
- ▶ 4|Relevant private associations and institutions
- ▶ 5|Research institutions, universities etc.
- ▶ 6|others

d) Specify your type of organisation if not in the list

2. External challenges your region is facing

a) Estimate the importance of the following external challenges in your region for the period 2014–2020 within a range from 1 to 10

- ▶ 1|Globalisation/Economic Development
- ▶ 2|Governance issues
- ▶ 3|Accessibility
- ▶ 4|Demographic change
- ▶ 5|Social cohesion
- ▶ 6|Climate change
- ▶ 7|Energy
- ▶ 8|Environment
- ▶ 9|others

(1 = not important at all, 10 = extraordinary importance, X = I cannot estimate the importance)

b) Which other external challenges have you identified? (if none, leave blank and select "x" above)

- ▶ 1|Research, technological development and innovation
- ▶ 2|Enhancing access to and use and quality of ICT
- ▶ 3|Competitiveness of SMEs
- ▶ 4|Low-carbon economy in all sectors
- ▶ 5|Climate change adaptation, risk prevention and management
- ▶ 6|Environment and resource efficiency
- ▶ 7|Sustainable transport and key network infrastructures
- ▶ 8|Employment and labour mobility
- ▶ 9|Social inclusion and combating poverty
- ▶ 10|Education, skills and lifelong learning
- ▶ 11|Institutional capacity and efficient public administration

c) Which other need category (not in the list) should be paid attention to?

d) For the selected categories please estimate the importance of the single needs within a range from 1 to 10

Research, technological development and innovation

- ▶ 1|Improvement of an industrial base able to compete globally in a strong and sustainable way
- ▶ 2|Investment in R&D and the establishment of a knowledge-society
- ▶ 3|Promotion of the market maturity of innovations to utilize them economically

Enhancing access to and use and quality of ICT

- ▶ 1|Broadband deployment and high-speed networks
- ▶ 2|ICT products and services, e-commerce and demand for ICT
- ▶ 3|ICT applications for e-government, e-learning, e-inclusion and e-health

Competitiveness of SMEs

- ▶ 1|Promoting entrepreneurship and fostering the creation of new firms
- ▶ 2|Improvement of an adequate business environment for SMEs
- ▶ 3|Developing new business models for SMEs
- ▶ 4|Tourism development

Low-carbon economy in all sectors

- ▶ 1|Energy of renewable sources to act independently from energy imports and increasing prices for fossil energy
- ▶ 2|Preventing European regions of energy capacity shortage
- ▶ 3|Increasing energy efficiency

Climate change adaptation, risk prevention and management

- ▶ 1|Reduction of risks and impacts of natural hazards
- ▶ 2|Reduction of CO2 emissions
- ▶ 3|Adaptation measures for heat-waves

Environment and resource efficiency

- ▶ 1|Supporting environmentally friendly technologies and activities
- ▶ 2|Biodiversity and landscapes
- ▶ 3|Protecting, promoting and developing cultural heritage
- ▶ 4|Improvement of water, air and soil quality
- ▶ 5|Transformation of old industrial sites

Sustainable transport and key network infrastructures

- ▶ 1|Accessibility of peripheral regions
- ▶ 2|CENTRAL EUROPE's interconnectivity: between regional, national and international economies
- ▶ 3|Improvement of accessibility within agglomerations in a sustainable way
- ▶ 4|Efficient transportation of persons and goods and the supply of alternative transportation modes

Employment and labour mobility

- ▶ 1|Handle brain drain
- ▶ 2|New ways and opportunities of employment
- ▶ 3|Youth unemployment

Social inclusion and combating poverty

- ▶ 1|Dealing with disparities based on a person's ethnicity, gender, age group or education
- ▶ 2|Reduction of income inequalities and disparities between the rich and the poor population

- ▶ 3|Answering shrinking and diverging population dynamics

Education, skills and lifelong learning

- ▶ 1|Enhancement of the education-level
- ▶ 2|Dealing with the ageing of the population
- ▶ 3|Human capital development

Institutional capacity and efficient public administration

- ▶ 1|Strengthening governance by reinforcing partnerships (local/regional actors)
- ▶ 2|Enhancement of institutional capacity and an efficient public administration
- ▶ 3|Preservation of services of general economic interests (SGEIs)

4. Target Groups/Stakeholders

a) If possible, please identify the most relevant addressees/owners of the needs you have identified before, especially with regard to those target groups and stakeholders which can participate in- and/or can benefit from – transnational cooperation projects.

Indicate one or more stakeholder group(s) of your country/region and/or, if possible, the name(s) of the concerned institution(s).

- ▶ Research, technological development and innovation
- ▶ Enhancing access to and use and quality of ICT
- ▶ Competitiveness of SMEs
- ▶ Low-carbon economy in all sectors
- ▶ Climate change adaptation, risk prevention and management
- ▶ Environment and resource efficiency
- ▶ Sustainable transport and key network infrastructures
- ▶ Employment and labour mobility
- ▶ Social inclusion and combating poverty
- ▶ Education, skills and lifelong learning
- ▶ Institutional capacity and efficient public administration
- ▶ Stakeholders for other needs (not covered by the main challenges)

5. CENTRAL EUROPE Programme

a) If your organisation/you would participate in the CE Programme in the period 2014–2020, which would be the subject of your interest

- ▶ Research, technological development and innovation
- ▶ Enhancing access to and use and quality of ICT
- ▶ Competitiveness of SMEs
- ▶ Low-carbon economy in all sectors
- ▶ Climate change adaptation, risk prevention and management
- ▶ Environment and resource efficiency
- ▶ Sustainable transport and key network infrastructures
- ▶ Employment and labour mobility
- ▶ Social inclusion and combating poverty
- ▶ Education, skills and lifelong learning
- ▶ Institutional capacity and efficient public administration
- ▶ Stakeholders for other needs (not covered by the main challenges)

b) For the selected subject(s) of interest please select at least one specific topic.

Research, technological development and innovation

- ▶ 1|Research and innovation infrastructure (R&I), developing R&I excellence and promoting centres of competence
- ▶ 2|Business R&I investment, product and service development, technology transfer, social innovation and public service applications, demand stimulation, networking, clusters and open innovation through smart specialisation
- ▶ 3|Technological and applied research, early product validation actions, advanced manufacturing capabilities and first production in Key Enabling Technologies and diffusion of general purpose technologies

Enhancing access to and use and quality of ICT

- ▶ 1|Broadband deployment and high-speed networks
- ▶ 2|ICT products and services, e-commerce and demand for ICT
- ▶ 3|ICT applications for e-government, e-learning, e-inclusion and e-health

Competitiveness of SMEs

- ▶ 1|Promoting entrepreneurship and fostering the creation of new firms

- ▶ 2|New business models for SMEs

Low-carbon economy in all sectors

- ▶ 1|Production and distribution of renewable energy sources
- ▶ 2|Energy efficiency and renewable energy use in SMEs
- ▶ 3|Energy efficiency and renewable energy use in public infrastructures and in the housing sector
- ▶ 4|Smart distribution systems at low voltage levels
- ▶ 5|Low-carbon strategies for urban areas

Climate change adaptation, risk prevention and management

- ▶ 1|Investment for adaptation to climate change
- ▶ 2|Investment to address specific risks, ensuring disaster resilience and disaster management systems

Environment and resource efficiency

- ▶ 1|Investment in the waste sector
- ▶ 2|Investment in the water sector
- ▶ 3|Protecting, promoting and developing cultural heritage
- ▶ 4|Protecting biodiversity, soil protection and promoting ecosystem services and green infrastructures
- ▶ 5|Urban environment, regeneration of brownfield sites and reduction of air pollution

Sustainable transport and key network infrastructures

- ▶ 1|Multimodal Transport, Investments in the Trans-European Transport Network (TEN-T)
- ▶ 2|Regional mobility – connecting secondary and tertiary nodes to TEN-T infrastructure
- ▶ 3|Environment-friendly and low-carbon transport systems and sustainable urban mobility
- ▶ 4|High quality and interoperable railway system

Employment and labour mobility

- ▶ 1|Business incubators and investment support for self-employment and business creation

- ▶ 2|Local development initiatives and aid for structures providing neighbourhood services to create new jobs
- ▶ 3|Infrastructure for public employment services

Social inclusion and combating poverty

- ▶ 1|Health and social infrastructure
- ▶ 2|Physical and economic regeneration of deprived urban and rural communities
- ▶ 3|Support for social enterprises

Education, skills and lifelong learning

- ▶ 1|Developing education and training infrastructure

Institutional capacity and efficient public administration

- ▶ 1|Support of actions in institutional capacity and in the efficiency of public administration

Other subjects in the above category possible

Annex 3: Inventory of answers of the online questionnaire

Figure 39: Other external challenges mentioned

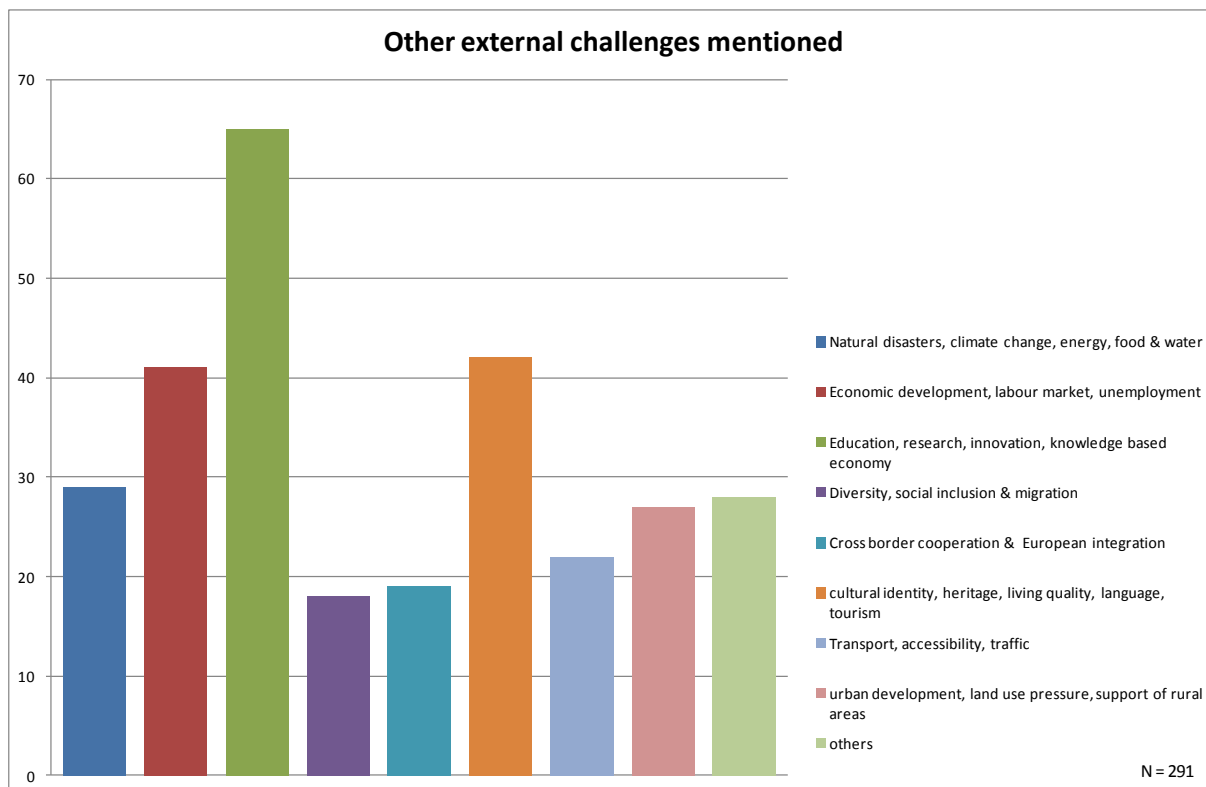
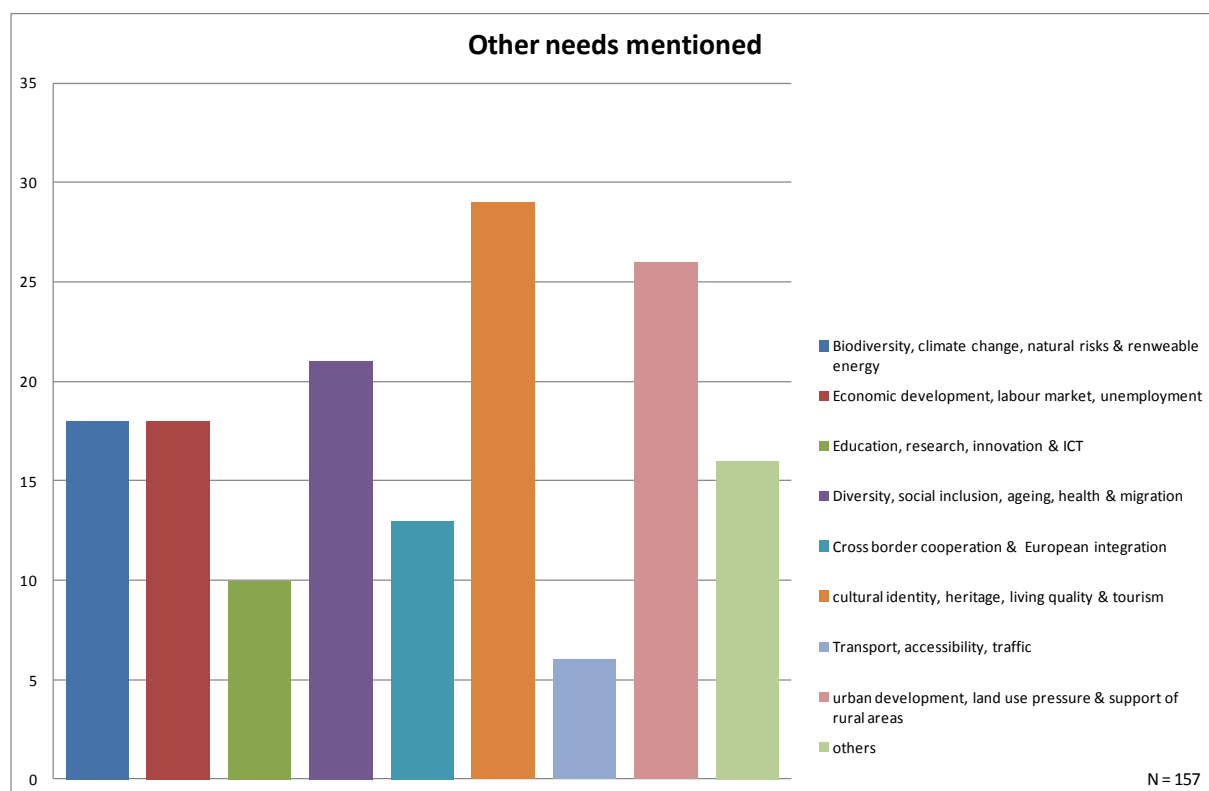


Figure 40: Other needs mentioned



Specification of the organization, company or professional field of the interviewees, sorted by countries

CZ

- State-owned plant
- Other
- Health Institute – diagnostics in hygienic and clinical practice

DE

- consultancy firm
- Technology and start-up centre
- firm
- public private partnership
- JTS
- spatial planning office, engineering firm for spatial planning and development
- consultancy firm
- architect – spatial planner
- special interest group for employees
- private firm
- private consultancy firm
- private consultancy firm
- engineering firm
- commodity team

- planning firm
- State's project office
- public firm
- special interest group for cities
- Virtual Business Incubator
- Mayor
- State's administration

EN

- equivalent public body local development agency
- JTS
- Joint Technical Secretariat – Central Europe Programme
- Private company
- Transnational programme secretariat
- Ngo oriented to research and development on sustainability in agriculture
- entrepreneur + association
- the JTS of cross border cooperation programme
- multimedia, film and video production
- NGO oriented to support sustainability in agriculture
- eu funding consultancy
- project management
- NGO/independent consultant
- Beratungsunternehmen
- Abc
- Consultancy
- private consulting
- SME
- Private
- non-government association (legal entity)
- business park
- chemical industry association
- private company
- Consulting
- private company
- Chamber of industry and commerce
- Vocational Training Agency (Public equivalent)
- JTS Baltic Sea Region Programme 2007–2013
- private asset company
- intergovernmental organization
- NGO
- cultural association
- private company
- INTERACT

- private company
- private company
- EEIG
- private organization
- private online media & information portal, active in consulting services for SMEs
- state enterprise
- Innovation consultancy and programme management company experienced in Central Europe projects
- private consultants
- Business Consulting
- Civil Engineering Office
- Self employed consultant for environmental tasks and head of a network for renewable energies and new technologies
- Consulting company
- representation of interests
- International organisation under national law
- International organization
- consultancy company
- regional planning
- cultural institution
- Agency
- Waterway company in Austria
- SME / Company
- EU structural funds
- NGO
- intermediary body
- Private consultancy
- East Sweden Region
- private research company
- non governmental organization
- association grouping (npo)
- private consultancy
- private company
- independent advisor & consultant
- consulting
- smes
- Development Consulting
- non-profit
- asset company
- cluster
- region in the phase of development
- Public equivalent body
- cooperative society of building trade

- co-operative society for building trade
- Independent consultancy specialising in entrepreneurship and growth
- Projectmanagement consulting
- non-profit institute
- Private research
- intergovernmental organization

HU

- megnevezni azt
- NGO
- association
- professional bodies – civic organisation

IT

- private firm
- public firm

PL

- energy company
- school
- private institution
- other
- foundation
- health care
- health care
- Regional Development Agency
- nongovernmental organization
- nongovernmental organization
- nongovernmental organization
- Regular Association
- none
- PKO BP SA (it is the bank's own name)
- Company of the State Treasury
- Limited liability company with 100% share of the Treasury, business support institutions
- Limited liability company with 100% share of the Treasury, business support institutions

SI

- enterprise
- limited liability company
- limited liability company

SK

- The association of legal entities

- Non-governmental organisation

Other external challenges identified by the interviewees, sorted by countries

CZ

- Water mode = floods and drought
- Unemployment
- Unemployment
- Unemployment, nízká úroveň vzdělání, doprava
- Support of new BAT technologies

DE

- transformation ability
- innovation ability
- equality of opportunities and diversity
- equality of opportunities, migration and diversity
- emissions and corresponding protection / avoidance of conflicts
- combating corruption, reforms related to education, research, universities, health system, direct democracy
- change of living style wished for?, life quality, challenge of reduction in MIV, financing sustainable developments
- youth employment
- problems of housing quality, building of dwellings and settlements
- local public transport
- education
- atomic threats from neighbouring countries
- strengthening of regional economic development through supporting framework structures
- accessibility according to the UN-Convention
- integration of central European area PRAGUE-VIENNA-PRESSBURG-BUDAPEST
- cooperation
- missing political decisions with regard to the economy
- Integration
- cultural identity
- technology, science, future of knowledge society
- regional development caring about the origins and with innovation orientation
- transformation ability
- well educated labour force
- services of public interest, ensuring life quality, preservation of cultural landscapes
- bureaucracy
- services of public interest
- innovation and competition
- global population growth
- urban rural partnerships
- climate change and energy

EN

- work's market
- European integration or disintegration?!
- education
- Natural risks
- urban sustainability
- Cross-border cooperation
- Research
- unemployment
- negative influence of globalisation
- urban quality of life
- overcoming / dealing with crises
- Culture
- Culture
- urban development
- social exclusion
- fiscal pressure
- skills of peoples
- transport
- availability of skilled and well educated human resources
- Take-up of IT solutions by the most SMEs
- support and care of cultural heritage
- Urban living quality
- exploitation of heritage and tourism resources
- language
- integration between research and production, new innovation management models in SMEs
- sustainability, justice
- biodiversity loss
- Transport sector
- Integration within the EU
- urban land use pressure
- SMEs network and internationalization
- EU bureaucracy
- the relationships between urban and rural areas
- culture as value and resource
- EU declaration of a policy closer to Ukraine within the same ENPI actually very bureaucratic.
- EU regulations impact on European industry competition
- culture
- scaling up of R&D achievements
- tourism development
- Promoting Culture as key factor.
- Urban development

- flood protection
- health, disabled inclusion
- culture
- Upgrading cultural/historical heritage
- children and youth help/care
- migration
- brain drain
- development of inner city sites
- traditional economy / production recovering
- support of countryside
- development of research and knowledge based society
- cultural issues – attention to special needs and social inclusion
- POVERTY AND UNEMPLOYMENT
- support to cultural developpement
- none
- risk prevention
- Innovation
- integrated (holistic) approach in urban development, coordination of actors (government, municipalities, civic society)
- integrated (holistic) approach in urban development, coordination of actors (government, municipalities, civic society)
- land use
- Tourism
- cultural issues – attention to special needs and social inclusion
- Traffic
- trasfomation of a traditional economy in a knowledge based one
- education & research
- Labour market – employment policies
- Innovation
- food safety
- mobility, security
- technology, materials, raw materials
- Globalisation/Economic Development
- tourism, sport accessibility
- comunication
- Transport, Workability
- Education, Active public participation
- river regulation, navigation development
- Cross border mobility
- integrated approach
- missing integrated approach
- innovation/R&D – SMEs competitiveness – occupation/lifelong learning
- food and resource security

- resource and food supply
- competitiveness for regional industry
- social justice, non-profit-economy or governing the commons
- lack of skilled workers
- Labour market flexibility
- Reaching enhanced levels of innovation in specified fields of technology, going beyond existing innovation networks
- education
- Regional and technology foresight
- shortage of housing
- natural risks (highwater, dryness...) = Part of climate change
- research, innovation, technological transferability
- Education System
- int. cooperation in Science, Technology and Innovation
- change of lifestyle?, life quality indicators in challenge with low energy emission, low mobility (with cars),
- border issues
- knowledge and information
- Nature conservation
- Change in needs of tourists
- culture of cooperation
- Knowledge development
- Knowledge development
- cross border activities
- supra regional cooperation
- innovation and creativity
- Transport Policy (public)
- Fulfillment of EU directives – deadlines are close (WFD, FD etc.)
- Education
- Water management
- FDI, employment, sustainable development
- Labour Market
- education
- DEVELOPMENT WITHOUT PLANNING
- Urban sprawl
- Urban sprawl
- employment that is also linked to economic development; occupational health and safety at work;
- education; shortage of technical specialists
- Makroregional strategies; European Regional Development
- Decoupling of economic growth and land take
- sustainable mobility, public transport
- innovation promotion in a societal frame

- skills development (young) and retention (how not to waste the skills of fired people of a certain age)
- knowledge transfer, innovation,
- cultural identity
- Labour market
- Migration; Cities as focal points; sustainable transport
- innovation
- cultural and natural heritage
- depletion of ecosystem services
- Urban development
- food quality and security
- invasive alien species and new diseases induced by globalisation and climate change
- investment attractiveness of regions
- mobility, location development
- culture and tourism
- level of education
- urban development, sustainable transport (cycling)
- urban & regional development = important priority III+IV B
- Employment
- Employment
- urban & regional authorities, land lords, entrepreneurs
- immigrants
- Crisis
- gender equality
- Water potential
- Water potential
- financial uncertainties
- International economic competition
- Education
- Agriculture and Food safety
- cross border cooperation
- SME competitiveness
- economic crises
- transboundary cooperation, implementation and funding of sustainable land use practices
- culture
- Competition and Innovation
- globalized information, access to education, global dialogue
- waste processing
- innovation culture, technology transfer
- Severe weather
- future development of EU, the eurozone stability and recovery, availability of the ext. funds for funding of gov. debts
- Urban renewal

- cultural exchange, heritage protection
- Digital Divide
- Reducing land consumption
- education
- business support, technology transfer, open innovation, living labs
- loss of well educated young people (emigration)
- lower economic standard
- formation of transnational europe
- services in rural areas
- technology transfer, innovation culture
- innovation culture, technology transfer
- "Brain drain" (related to demographic change and globalisation as well)
- drought, lack of transparency
- integration of imigrants
- research
- Tourism
- migration, labor mobility, human capital development

HU

- regional governance, status of self-governments, level of decentralisation, local sources for development
- culture of co-operation/partnership
- Employment, problems of disadvantageous people
- Employment

IT

- Using technology in transport
- enhancement and development of culture among young people
- Globalization – Economic Development – Energy
- ICT DIGITAL DIVIDE
- Digital Divide
- Digital Divide
- Digital Divide
- Digital Divide
- rising unemployment, economic crisis with serious effects on SMEs

PL

- lack of jobs
- co-financing projects
- the increase in social capital
- health care
- innovativeness
- innovativeness

- restore on the labor market economically excluded people by creating new jobs by using niches
- Health Care, IT, New Technologies
- Transport
- development of green transport in cities
- ecological transport and communication
- social development and education
- revitalization of degraded areas
- sustainable transport
- sustainable transport
- transport
- sustainable transport
- mobility
- public health, improve the quality of public health

SI

- knowledge
- waste management
- development of enterprise
- regional cooperation between cross border countries

SK

- Information and communication technologies
- Public information
- Saving of natural sources
- Danube strategy
- Transport and infrastructure
- Informatisation of public administration
- Education, transport, leisure activities, cultural heritage conservation, regional cooperation
- Innovations in technology and materials
- Tourism as a sector of the economy
- Water potential
- Employment of young people, the Roma issue, better interconnection between SMEs, efficient management of Structural Funds
- Tourism, employment, road infrastructure, infrastructure of public institutions such as. schools, hospitals, social services facilities
- Regeneration of settlements, rural development
- Balancing disparities
- Regional infrastructure, tourism
- Alternative sources – energy efficiency, sustainability of resources – water, air, soil

Other needs that should attract more attention according to the interviewees, sorted by countries

CZ

- Rural development

- Tourist industry development, care of monuments
- Ethics and spiritual values

DE

- integrated urban development
- transnational cooperation of SMEs
- promotion of cultural affairs
- balance of spatial planning and environmental laws
- combating corruption
- optimising housing quality
- ecological spatial planning and dealing with urban sprawl
- institutional capacity for developing structures of sustainable regional economic development
- fair minded society in the sense of inclusion
- tightening behaviour of municipalities, public finances, chambers and taxation
- Sustainable infrastructures for an appealing living area (design of dwellings, local recreation areas, open spaces)
- new models of cooperation for coping with demographic change
- labour force aged 55 and higher
- reduction of bureaucracy
- biodiversity and species conservation
- sustainable mobility

EN

- employment (youth)
- Natural risks
- Cross-border cooperation
- rural development
- research and development in sustainable agriculture
- I do not believe that labour mobility is a value as it promotes rural brain drain and disturbs families
- tourism
- Culture
- Culture
- Demografic Change, Ageing society
- non effective and non integrated european national and regional supporting policies
- Health prevention
- exploitation of heritage and tourism resources
- transfer of knowledge
- integration and cultural exchange: public administrations, research bodies, travel
- culture
- the relationships between urban and rural areas
- energy
- attention to health problem

- ICT for enterprise networking, digital society development
- Cultural heritage
- international cooperation
- provision of sustainable health services in view of ageing
- improving the access to information – increasing the reliability of mainstream media
- Adaptation to Demographic Change
- people ageing and safety
- cultural issue and civic participation
- COMPETITIVENESS OF SMEs AND RESOURCE EFFICIENCY
- Health & Well being of population as a mean for reducing costs
- cultural activities and their job creation capacity
- Successful adaptation of urban and rural areas to new functions
- Successful adaptation of urban and rural areas to new functions
- no weapon production
- cultural issue and civic participation – special needs
- cross-sectoral dialogue
- Tourism development
- Internationalisation and attractiveness of the territory
- health
- leisure time activities for young, policy for young
- self employment, co-op,
- natural risk
- integrated approach
- integrated approach
- integration/partnership of three sectors: public, private and non-profit/non-governmental
- Integrated approach
- democracy, learning from every-day-life
- Energy transition issues
- Equality and social justice as innovation factor
- sustainable spatial and settlement development
- independence from international money
- Safety and security of transport
- Environmental and land-use planning
- tourism, small infrastructure, large scale investments, people to people relations
- Enhancing the institutional capacity of the civil sector (NGOs)
- cooperation between educational system and economy
- Creative industry
- Sustainable exploitation of renewable energy sources
- environment conscious consumption, decrease of consumption
- water management
- cultural heritage
- Water management
- moderate the negative effects of geographical peripherality

- social innovation
- Production of high quality food locally
- SYSTEM OF PLANING
- promoting entrepreneurship
- Territorial Cohesion
- saving energy
- Development of democratic structures ob all social levels
- trans-national concepts for transport and energy management; programmes for mutual cultural understanding (language barriers)
- nature conservation and sustainable regional development
- nature conservation & habitat restoration
- 100 % Renewable Energies
- town centre revitalisation
- municipalities infrastructure
- adadaptation to demographic change (firm and public strategies)
- cross border cooperation of authorities, public bodies and state agencies
- Tourism
- visibility and competitiveness of region
- urban & regional development = territorial priority V B
- urban & regional authorities, land lords, entrepreneurs
- Minority inclusion
- Town and Country planning regulations
- Town and Country Planning Regulations
- local air pollution
- tourism development
- child care, gender issues, youth unemployment
- Reducing (intraregional) territorial disparities
- alternative financing, power restriction of industrial complexes, financial justice
- Migration management based on solid evidence (data)

HU

- developing the co-operation between economic actors and universities

IT

- simplifying public procedures
- simplifying public procedures
- education, training
- al relationship between universities and the labor market

PL

- e-government services
- development of technical infrastructure in the regions
- culture

- culture of leisure
- fighting with social and professional exclusions
- Health care
- accessibility
- social needs, especially in terms of strengthening health and social care
- spatial planning
- restoration of degraded land into use
- development of bicycle transport
- youth and public health – improving the quality of public health
- fight against unemployment

SK

- Support of media pluralism
- Environment
- Identification of potential development opportunities of the region
- Tackling the Roma issues
- Support of tourism
- Support of tourism, availability of housing for everyone
- Development of tourism, agrotourism
- Culture and sport
- Strategic intelligence, regional competitiveness, search for new business models of 21 century, functioning of SMEs in the regions
- Support for rural areas
- Homes for the elderly, local infrastructure
- Education, employment
- Access to information, effective public administration, healthy financial sector,

Identified target groups and stakeholders which can participate in and/or can benefit from transnational cooperation projects. Sorted by countries

Identified target group in the field of “research, technological development and innovation”, sorted by countries

CZ

- Scientific–technological parks, technology centers
- Universities
- Universities, research and development institutions
- Public universities, science and research parks, innovative companies
- Carlsbad Region, Business development regional agency, Industrial enterprises in Carlsbad Region
- Business sector, universities, science and research subjects
- OSEVA vývoj a výzkum s.r.o.
- J. E. Purkyně Univesristy, Ústí nad Labem, Lignite Research Institute Most
- Health Institutes
- Univesrities, Academy of Sciences

- Academy of Sciences, innovation agencies, clusters

DE

- SME
- research institution (existing – IHP Frankfurt (O); new)
- economic chamber, industrial association, special interest groups
- Committee for research and technology development; BMVIT, BMWF; BMWFJ; FFG; FWF;
- Universities of Weimar and Ilmenau
- cluster management, regional development and innovation agencies
- universities, Steierm. State government, research association Joanneum Research, economic chamber
- industry, SME
- house building institute
- universities, technical offices, SME
- youth, universities and their spin-off and start-up firms
- universities, research institutions
- Joanneum Research, TU Graz
- colleges
- governments of federal, states and municipalities and corresponding institutes, universities and supporting organisations
- university, colleges, research institutes, science related firms
- College for sustainable development Eberswalde
- development agencies, research associations, universities
- University of Magdeburg and Halle
- universities, SMEs, public enterprises
- innovations and incubation intermediaries
- colleges, firms

EN

- Research, technological development and innovation
- Universities and SMEs
- UNiversities
- Universities, research centers (e.g. AIT)
- enterprises, national agencies for R&D
- Federal States, Research Institutes, Business Associations
- politics, administration
- Research center; Laboratories of each SME and public laboratories (University) that can support the R&D of SMEs
- Public and private universities, Polish Academy of Science
- Ministry of Education
- governmental authorities, cities and communes
- universities and research centres
- Inovacentrum ČVUT

- research institutions
- Sustainable methods to live in and with the nature without harming it
- SMEs
- COESIA group – Bologna
- SME, renewable energy companies, universities
- academics
- Energy independent small farms producing organic food using sustainable methods
- ministry of science nad higher education
- universities, companies
- universities
- technological parks, incubators,
- local, regional
- SMEs, educational institutions
- PMI micro enterprises
- SMEs
- ELI = Extreme Light Infrastructure, Development centers,
- Auastrian Mobility Reaearch (FGM-AMOR), Joaneum Reaearch
- scince and innovation managers
- reasearch centres, universities, policy makers, SMEs
- university
- decision makers, politicians, entrepreneurs
- Ministry of industry and commerce
- University network of Novo mesto, Chamber of Commerce, KRKA, Infotehna, Revoz, Adria
- Technology Center AVCR
- research centers, Energy Environmental Agencies
- research institutions, universities
- universities
- humanities studies
- research institutes and polytechnic schools
- Research Triangle Europe
- Styrian Universities
- clusters, companies, research institutions
- Consiglio Nazionale delle Ricerche (CNR)
- universities, SMEs
- Trencin University, Regional Chamber of Commerce and Industry
- R&D Institutions, Universities, public authorities on regional and central level
- researchers, university students, PhD. students
- Institutes, SMEs
- research quality improvement, basic, applied and experimetal research
- technology parks and incubators, schools
- universities, SMEs, incubators, technological parks
- Innovative SMEs – start-ups, universities
- Universities, research institutes

- universities, SMEs
- Scientific Universities, Incubators,
- University of Parma, CIMA Foundation, CNR-IRPI
- Universities, NCR
- Slovak university of technology, slovak academy of science
- Department of Geoenvironmental Research IG&SO PAS
- SME
- university of Ljubljana, ljubljana municipality
- universities, reserach institutions, mediators, innovative companies
- Universitäten, Entwicklungsabteilungen von Firmen
- Technology Transfer inst.: R&D (e.g. Universities) and SME´s
- SMEs
- R&D units, technology parks, universities,
- University of Applied science FH JOANNEUM
- industry (representatives, associations), economic promotion, deparments of commerce/trade/industry
- I do not understand this question
- enterprises and industries
- Universities (Venice & Padua), Research Centres (VEGA in Venice),
- Young entrepreneurs, school, university, public administration
- SMEs
- Universities, Innovation centers, innovative companies
- Bayerische Patentallianz GmbH, Landespatentverwertungsgesellschaften
- enterprises, university, researchers
- researchers, private companies providing research, universities (also private)
- technical universities
- SMEs, Professionals (architects, engineers, etc.), Citizenship Representative Associations
- University of West Bohemia
- Universities
- non profit organization
- universities, centre research, public institutions, private companies, graduates, young people
- University, Industry
- Regional authority
- SMEs
- SMEs, local authorities, Universities and Research Institutes
- Fraunhofer Institute
- Universities
- Tourism enterprises
- ministries, unversities, local governments
- SMEs, Universities, Rresearch Centers
- Ministries of Education and Industry, Cities, Regions
- Public and private research associations
- ZIT Technologiezentrum der Stadt Wien

- ministry, industry, university
- SME, national level, universities
- SME
- Technopolprogramme of Lower Austria
- research institutes in the field of environmental sciences, renewable energies
- SME
- university, schools, companies
- innovation agencies, companies, universities, r&d organisations, ICCs
- universities, public research institutions
- young educated people from natural sciences
- SME, University, Public administration
- AIT Austrian Institute of Technology
- University of Vienna
- NGOs, networks
- joanneum research, University of Graz
- all Austrian Universities
- Universities
- Universities, industry
- University of Life Sciences and Applied Technologies, BOKU, Vienna
- research center and university managers, TTO heads
- universities, firms, government
- transport providers, multimodal operators
- BTU Cottbus
- Polish Academy of Sciences
- Szczecin University, Maritime Academy, Westpomeranian Technological University
- Enterprise Consortia, Universities
- non-university research centres
- SME
- research institutes, universities
- VITUKI
- SMEs, University of Pécs, University of Kaposvár, South Transdanubian Regional Innovation Agency, research facilities
- Audi
- Regional and local government, Universities, SMEs
- universities
- Joanneum Research Graz, TU Graz, BOKU Wien
- SME, R&D private Company
- Research institutes, individual technology developers
- Intermediaries
- university
- RCERS (H.A.S.), Univ. of Szeged
- Universities
- non-university research institutes (AIT, Joanneum, ZSI, Research Austria)

- National Agency for Research and Technology Development
- SMEs
- SMEs, students
- SMEs, Universities
- universities
- SMEs – business sector; educational establishments; public sector entities
- All universities, public research institutes
- industry (represented by federation of industry IV Salzburg); ITG;
- universities
- private companies, universities, research institutions, public administration
- Technická univerzita Košice
- , reaserach centers, SMEs
- University of Applied Sciences, SMEs
- RDAs, RPICs
- SME executives, applied sciences
- universities, research institutes, SME (e.g. Fraunhofer, Max Planck, Helmholtz–Forschungszentren)
- Ministry for Education, Science, Culture & sport; TIA
- research centres, IIT (Istituto Italiano di Tecnologia)
- research institutions, technology-oriented SMEs, innovative industrial companies
- AREA SCIENCE PARK
- Higher Education Institutions, Research centres, SMEs
- ministries, research, SME.s
- intermediate bodies (e.g. SFG, ECO Plus, AWSG, Clusterland, KWF etc) universities and other research institutions (incl. privat)
- administrations of nature and landscape protection
- Entrepreneurs
- ministry for science and research
- chce to revoluci
- Universities
- universities, research institutes, SME
- Slovenská technická univerzita
- university,SME,NGO
- Universities, Business environment bodies
- South Moravian Innovation Centre (JIC)
- research institutions, universities, enterprises
- Universities, research institutions, technology institutions
- Professional Institutions; local/regional SMEs; policy makers
- Universities research organisations
- R&D institutions, universities, companies, public authorities
- SMEs, Chamber of Commerce, research institutes and universities, Adminstration responsible for economic development and research
- Regional Centre for Innovation and Technology Transfer, 8 Janosika Street, 71–424 Szczecin

- research institutes
- Technical Universities, Science Institutes
- universities, municipalities, technological centres
- Clusters
- technology transfer / innovation support service providers, technology based companies
- Academy of Science, Czech Technical University
- cooperation between higher education sector and industry
- University of Applied Science Emden–Leer
- the whole society
- mechanical & chemical industry
- SME, chambers of commerce and industry
- University, SME
- Bay Zoltan Reserach nonprofit ltd.
- universities
- all universities and research institutes in the region
- ZIT
- Higher education, clusters
- health, renewable source of energy, energy management
- National government, Research centres, Universities
- Universities, Research organisations
- Slovak University of Technology /STU/ Bratislava, TU Zvolen
- SAS, technical universities, SMEs, large copmanies
- clusters (Lviv IT–BPO Cluster, WPF Cluster, etc.), Lviv Innovation Center
- SMEs, multiplier (e.g.: chambers, associations, R&D–organisations)
- Innovative companies and prospective founders of such companies; South Moravian Innovation Centre
- universities, research institutions
- Slovak Technical University, Slovak Academy of Science
- SMEs
- Ministry of Industry and Trade of the Czech Republic; Czechinvest
- Technology centers, R&D instituts
- Universities, Academy of science, Business innovation centers, research centers, regional development agencies
- planners, cultural heritage organisations, land use management, museums
- ministry of science, universities
- Enterprise Ireland (development agency)
- Universities, DHBW Lörrach, Fraunhofer Inst., Steinbeis–Zentrum
- Research labs, Innovation centres, Emilia–Romagna High Technology Network
- stakeholders in energy industry, transport
- private institutions (private research centres, SME, LME), universities,
- Research Centers
- Holz Innovationszentrum Zeltweg, Kraft.Das Murtal, Wirtschaftskammer Murtal
- SMEs

- Pomurje Technology Park, E-zavod, TIA,...
- Karlsruhe Institute of Technology (KIT)
- universities and other research institutions (The Polish Academy of Science), consulting firms
- research departments in public and private enterprises
- universities
- Local authorities (regions and provinces), Universities, research centres, RDAs
- joint private and public sector partnerships
- Pannon University, other regional colleges, regional innovation agency, Central Transdanubian RDA, Mid-Pannon Reg. Dev. Company
- FH Burgenland, BIC Burgenland
- PMI

HU

- Universities, innovation-oriented companies, Széchenyi University
- young researchers, innovators
- Universities, innovation-oriented companies, Széchenyi University
- ICT, alternative energy sources
- Universities, research centres, R&D&I oriented SMEs
- University of Szeged
- Universities, research centres (RCERS H.A.S.)
- Research groups of universities

IT

- ICT enterprises
- SME and University
- Polytechnic University
- University, Firms, Research centers
- firms, training centers, university
- firms, training centers, university
- University, Research centers
- University, Research centers
- clusters and enterprises
- region
- Local authorities, research and development centers, universities, SMEs, trade associations
- Centers for Innovation
- University, firms, research centers

PL

- universities, business support organizations, administration, SMEs
- non-governmental organizations
- Think Tank the John III Sobieski
- SMEs
- research institutes, SMEs

- research centers, universities
- SMEs
- Universities and enterprises
- Universities, institution of higher education, research and development center
- Universities, enterprises, government
- Kielce Technology Park
- Research centers and enterprises
- Enterprises
- SMEs
- Research institutes (EIT), universities (Wroclaw University of Technology)
- City Hall Opole, Marshal Office, Economic Development Center Opole, Opole Scientific and Technological Park, universities
- universities
- universities (State Higher Vocational School in Walbrzych named AS
- City Hall of Wrocław
- Industrial Park Wroclaw, Wroclaw Technology Park
- Business and Technology Parks, Wroclaw Technology Industrial Park

SI

- centres of excellence, technological parks, universities, enterprises
- universities, research institutions, education institutions
- Technological innovation agency, Chamber of Commerce and Industry of Slovenia, SMEs
- ministry, technological parks, research organizations
- Public Agency of the Republic of Slovenia for Entrepreneurship and Foreign Investments, Slovenian Technology Agency
- Slovenian Technology Agency, universities, Ministry of Higher Education, Science and Technology

SK

- universities
- Regional Advisory and Information Centre, Regional Development Agency
- Organisation and the association for research and development
- University of Žilina
- SMEs
- Offices for technology transfer at the Slovak Academy of Sciences and universities, Slovak Academy of Sciences
- Technical universities
- Technical University of Košice ,University of Pavol Jozef Safarik, University of Veterinary Medicine, Košice self-governing region, ZTS VVU private joint-stock company operating in the field of engineering (machinery) and electro technical products
- Slovak Academy of Sciences
- Ministry of Education, Science, Research and Sport of the Slovak Republic , Slovak Academy of Sciences

- Slovak University of Technology, Slovak Academy of Sciences, Comenius University, Business Innovation Center
- Slovak Academy of Sciences, Faculty of Mechanical Engineering and Faculty of Civil Engineering
 - Slovak University of Technology
- Universities, research institutions, firms
- ASFEU – The Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic for the Structural Funds of EU

Identified target group in the field of “access to and use and quality of ICT”

Identified target group in the field of “competitiveness of SMEs”, sorted by countries

CZ

- Economic Chambers
- Clusters
- Small and Medium Enterprises
- Small business owners and minor companies with a staff of up to 10
- OSEVA PRO s.r.o.
- Com plus Ústí nad Labem, T602 s.r.o. Praha,
- Small and Medium Enterprises (SME)
- Czech Invest

DE

- SMEs, firms' associations, chamber of commerce, HWK, research institutions
- technology centres (BIC), transfer offices, public institutions (ZAB)
- Chamber of commerce
- Chamber of commerce, firms' associations, cultural and creative economy, city's administration
- education association Saalachtal, various cooperations
- economic promotion as central contact point
- chamber of commerce
- governments at federal, state and municipal level, AMS, chambers
- Chambers, associations
- RHK BRNO
- colleges, chambers, SMEs
- economic associations, chamber of commerce, development associations
- chamber of commerce
- economic promotion funds Kärnten, chamber of commerce
- innovations and incubation intermediaries
- economic promotion funds Kärnten

EN

- Clusters
- business intermediaries, SMEs directly
- RDA, Chamber

- politics, administration
- The International Association of Regional Development Institutions
- promotion of entrepreneurship, start-ups
- Ministry of Industry
- entrepreneurs
- SMEs
- public
- taxes, legal framework
- public bodies concerned, intermediate bodies, smes as target groups should be directly involved
- Ministry of economic development and technology Slovenia
- universities, self-governments, companies
- economic clusters, SMEs,
- incubators, local authorities, chamber of commerce
- Chamber of Commerce
- SMEs, industrial associations, technological and services centres
- PMI micro enterprises PMI
- SME associations working for reduction of administrative burdens (Chambers, VOSZ, KISOSZ, FIVOSZ, SZABASZ)
- SME owners and managers
- SMEs
- Chambers (for example: Chamber of Commerce and Industry Csongrád County)
- Ministry of Industry
- SMEs in agriculture, tourism, crafts
- Clusters, Networks
- Association of Business, AUT, Coordinating Council of the authorities, Transcarpathian Enterprise Support Fund "TES Fund"
- regional and local SME development agencies
- SMEs in the food industry and other regionally relevant sectors.
- public authorities, R&D Institutions, Associations of SMEs
- entrepreneurs
- SMEs, state government, regional government
- ICT for enterprise networking, digital business ecosystems, eCooperation platforms, new ways of business and market intelligence
- schools and support institutions
- universities, SMEs, incubators, technological parks
- SMEs associations, chambers of commerce, clusters
- Employers, employees, local SME associations
- CCIA
- small shop owners, craftsmen
- Small Enterprises
- Vienna Business Agency
- companies and local economy as a whole

- Wirtschaftskammer, ecoplus, Lehr- und Ausbildungseinrichtungen
- SMEs associations / Public Institutions
- SME's in Health Care Technologies/ Medical Devices
- chambers of commerce, SME, citizens
- Wirtschaftskammer Steiermark
- industry (representatives, associations), economic promotion, departments of commerce/trade/industry
- Chambers of Commerce
- Chamber of Commerce
- Young entrepreneurs, public administrations, credit system
- Municipalities, chambers of economy and commerce
- Municipalities, chambers of economy and commerce
- non-for-profit-organisations
- Chamber of Commerce, SMEs associations, political bodies, research centre, entrepreneurs
- Tourism businesses and tourism organisations
- SMEs, consumers, logistics, banks
- BIC Plzeň
- Innovation clusters (bioPMed in health care)
- CAMERA DI COMMERCIO
- tradesmen
- MINGO Vienna Business Agency
- creative industry
- entrepreneurs/craftsman associations es. CONFINDUSTRIA, CONFARTIGIANATO, CNA; Veneto Region
- Innovation and Business Centres
- SMEs, government / public administration
- employees
- innovation agencies, companies, ICCs, economic development agencies
- Wirtschaftsagentur Wien, Wirtschaftskammer,
- SMEs, Educational agencies, Municipalities
- innovative SMEs and clusters
- owners and managers of innovative SMEs
- EGC Cottbus
- compliance
- compliance
- Clusters
- Members of the Austrian Federal Chamber
- Westpomeranian Business School, Technological Park
- Industrialists' associations
- SME associations, public administration
- clusters, chamber of commerce
- SME
- Governmental institutions, educational institutions and legal offices

- Regional Development Agency
- industrial organisations
- the government
- Confindustria
- SMEs associations, schools, citizens,
- micro enterprises, service sector, creative industries
- Consulting Company or Association
- Business Development Organisations, decision-makers
- Chamber of Commerce and Industry
- Chamber of Crafts
- SME's
- SME, Universities
- Ministry for Employment
- Spin-off companies and companies having strong cooperation with universities and research centers
- NADSME
- SMEs, public authorities
- all SMEs, public authorities, banks
- NADSME, SŽK, SOPK
- Ministry for Economic development & Technology; PAEFI
- AREA SCIENCE PARK
- young people (to be encouraged to start business)
- Trentino Sviluppo
- Associations, Clusters, Research bodies, Administrations
- Innovation centre Telepark
- Národná agentúra pre rozvoj malého a stredného podnikania
- university,SME,NGO
- Business environment bodies
- local/regional SMEs; policy makers
- SME, IHK, Universities and R&D-institutions
- Národná agentúra pre rozvoj malého a stredného podnikania
- tourism
- companies, public authorities
- industrial companies selling to the end users
- entrepreneurship support centres, municipalities, ministries
- Clusters
- business support service providers
- industrial districts SMEs
- urban & regional authorities, entrepreneurs + chambers of
- SMEs, Regional Financial Holding, Industrial Associations, Business Innovation Centres
- cose
- SMEs
- SMEs, Industrial Districts, Business Innovation Centres

- regione Emilia Romagna
 - Regional business associations of SMEs
 - region
 - Chamber of Commerce
 - Chamber of commerce, craftsmen chamber, Ministry of Economy, public agency for foreign investments,
 - tools for internationalisation process for SMEs
 - Local authorities, associations of SMEs
 - ministries, potential entrepreneurs, practitioners from local governments
 - SMEs, stakeholders (e.g. chambers of commerce), universities
 - no data
 - Slovak Chamber of Commerce and Industry
 - innovation
 - Ministry of Industry and Trade of the Czech Republic; Czechinvest
 - Chambers, Business Development Agencies
 - exporters SMEs
 - exporters to EU and outside EU
 - SFA (Small firms Association)
 - creative and innovative SMEs
 - Innocel Lörrach, Wirtschaftsregion Südwest, IHK
 - SME associations, Regional government, Research labs, Innovation centres
 - SMEs
 - Alliances, Branches
 - agricolture SMEs
 - Kraft.Das Murtal, Wirtschaftskammer Murtal
 - GZS, OZS, Pomurje Technology Park, E-zavod, Štajerski Tehnološki park...
 - Chamber of commerce
 - SME associations
 - SMEs, SMEs associations (Chamber of commerce, BROs)
 - business incubators, technology centres linked to universities (e.g. Inovacentrum Czech Technical University)
 - CzechInvest; SMEs especially in services
 - chambers, local enterprise agencies, Central Transdanubian Regional Dev. Agency, Mid-Pannon Regional Dev. Company
 - Wirtschaftskammer Burgenland, IV
- HU
- automotive industry, informatics
 - Chambers
 - technology intensive SMEs
 - National Association of Entrepreneurs and Employers (VMOSZ)
 - MJ Kanizsa Consulting Ltd. Nagykanizsa
 - Public Transport Co. Miskolc

- kamarák

IT

- enterprises and their associations
- Municipalities and agencies for the development of the cross-border area; SDAG and businesses located there, carriers and shippers associations
- Promoters of the "Pact for Development"
- Business and agriculture associations, associations of cooperation, trade unions, banks
- clusters and enterprises
- Business associations as intermediaries in the intersection of supply and demand for innovation
- Business and agriculture associations, associations of cooperation, trade unions, banks

PL

- chambers of commerce
- business support institutions, entrepreneurs
- Foundation of Jan III Sobieski
- SMEs
- SMEs
- Świętokrzyskie Voivodeship Loan Fund Limited Liability Company
- SMEs
- competitiveness of small enterprises
- SMEs
- enterprises, business incubators,
- SMEs, local government units
- Micro, Small and Medium Enterprises
- small businesses promoting tourism, sports, local culture
- Ministry of Economy
- local government units, SMEs
- Opole Centre for Economic Development, Chamber of Commerce
- SMEs
- SMEs
- municipality Polanów
- owners of SMEs
- SMEs
- Wrocław Industrial Park, companies located in their area

SI

- Chamber of Commerce and Industry of Slovenia, Ministry of Economic Development and Technology
- chambers of commerce, entrepreneurs clubs
- agricultural holdings, local communities, holders of supplementary activities in rural areas, regional development agencies

SK

- National Agency for Development of Small and Medium Enterprises, Slovak Chamber of Trades, Slovak Chamber of Commerce and Industry
- Regional development agencies, business incubators, state organisations, regional media
- Self-employed, small and medium enterprises and their associations
- Slovak Innovation and Energy Agency; National Agency for Development of Small and Medium Enterprises
- SMEs
- Scientific and technological parks, business incubators
- Companies with a certificate of ability to perform research and development
- Business associations
- Business incubators, regional development agencies, chambers
- Ministry of Economy of the Slovak Republic
- Slovak chamber of commerce and industry, business associations and unions
- Ministry of Economy of the Slovak Republic
- Regional Advisory and Information Centre, Regional Development Agency
- Ministry of the Economy of the Slovak Republic
- Business Innovation Center
- SARIO – Slovak Agency for Investment and Trade Development

Identified target group in the field of “low-carbon economy in all sectors”, sorted by countries

CZ

- Power industry, transportation, local resources (family home owners, enterprises)
- All inhabitants, Ministry of the Environment...
- Minor resources operators

DE

- big "Players" in Stmk; Magna, Andritz AG, AVL, Voest Alpine, but also in public companies
- local energy agencies
- WKO, NGOs
- HK Rhein-Neckar
- e.g. industrial associations
- Fraunhofer-Institute
- Office for environmental affairs
- German Industry and Trade Association, Chamber of Commerce, environmental associations (BUND, NABU)
- manufacturing trade, transport companies, builders

EN

- producing companies, spatial planning, open public
- administration, business, inhabitants
- energy providers, private companies, SMEs
- national authorities

- Energy providers
- citizens, enterprises
- Industries and SMEs
- economic system, SMEs
- chambers
- industry, policy
- industry, consumers, administration
- local public authorities
- enterprises
- enterprises, local governments, researchers
- Chambers of commerce
- local authorities
- national government, local authorities
- local and regional authorities
- Automotive sector – FIAT. Local transportation companies: GTT, ATM, ARFEA, SADEM, SAPAV. National incentives are also needed.
- Administrations, Industry, citizens, University
- SME. co-op
- universities, sme, government
- Clusterprogramme of Lower Austria and ENU Organization
- Landesenergiebeauftragter; LEV; SFG, TU Graz, etc.
- business, ngos, municipalities
- Regional/Local Initiatives, Energy providers, public sector
- medium and long distance traffic by rail (goods and passengers)
- all citizens
- innovative SMEs
- dwellers, urbanists, housing cooperatives, horizon 2020
- Regional government, Economic Chambers, Chamber of Agriculture
- BTU Cottbus, Vattenfall, SMEs in the region
- regional governance, industry representatives
- inhabitants
- SMEs, municipalities and their institutions (schools, hospitals, cultural facilities, etc.), transport sector, wider public
- government, NGOs, big companies
- universities, Polish Academy of Science
- local authorities
- DÉMÁSZ, SZKT
- Dialogue and Deliberation with inhabitants and users
- National and regional authorities resp. for environment
- Landeshauptstadt Stuttgart
- SMEs, craftsmen, municipalities
- SME.s, research, public sector
- planners, architects, installers

- SME, NGOs, local people, public bodies/administration
- university, SME, NGO, society, own-government
- research institutions, universities, enterprises, state and public administration
- firms, state and regional level
- Ministry for Economic Affairs
- SMEs, Chamber of Commerce
- Companies
- the whole society
- urban & regional authorities, entrepreneurs + chambers
- Chamber of commerce, Ministry of Economy, Ministry of environment, regional development agencies,
- Special Regional Agency for Energy Effectiveness and RES
- stakeholders (associations, chambers of commerce), regional government, SMEs
- Ministry of Environment of the Czech Republic
- local authorities, citizens
- Local Energy Agencies, E-zavod
- local bodies, industrial consortium, farmers and their associations
- primary and processing industry, Ministry of Industry and Trade

PL

- Marshal Office
- SMEs
- all society
- Ministry of Economy, City of Szczecin, Department of Public Utilities and Environment
- energy
- Non-motorized transport (walking and cycling organizations), railways (Mazovian Railways)
- local public administration, private sector
- energy and thermal power companies, large manufacturing companies

SI

- R&D, SMEs, users

SK

- Agricultural subjects, industrial subjects, organisations of the Ministry of Environment

Identified target group in the field of "climate change adaptation, risk prevention and management", sorted by countries

CZ

- Water management, municipalities

DE

- agriculture – measures against draught
- climate funds, energy, environmental agency
- district of Barnim

- ministries for environmental affairs, environmental associations, forestry associations
- Office for environmental affairs
- Association for the protection of German Forests SDW, (environmental association) NABU, DHW (water associations)
- state government, municipalities
- municipalities, building economy, ministries, universities

EN

- delta of Po river
- regional planning institutions, regional authorities
- KOMPASS
- Politicians, Governmental Institutions, Local Authorities, NGOs
- ministries of Environment and Economic Development
- relevant public bodies at different territorial level, thematic or evidence-base/service-related experts (also private bodies)
- regional policy level, large insurance corporations
- Population and public administration
- agricultural policy
- City Council – department of urban green spaces and waters – department of environmental protection
- forestry companies at all levels
- National and regional public administrations
- City Region, administration, Science
- Ministry of Environment of the SR, Slovak Water Management Enterprise
- University of Parma, Department of National Civil Protection, CNR-IRPI
- Comune government, local and regional public administration
- Provincial Governments/Departments, Federal Ministries/Government
- regional governments
- public authority and private company
- all in the region, especially inhabitants along the border rivers (bi- / trilateral!); economy (national budgets!);
- Ministry of environment
- public authority and private company
- Mesto Handlová
- Public administrations, Citizenship Representative Associations
- Administrations, Industry, citizens
- Public authorities, industries, citizens
- Ministry of Environmental Protection, Regional Water Management, Regional Directorate of Environmental Protection, National Environment
- all
- farmers, agrarian
- Civil Protection Department, Società Meteorologica Subalpina
- public administrations (Regione Piemonte, Arpa Piemonte, Province, Comuni), general public

- Wasserwirtschaft und Zivilschutzabteilung
- Water Management Authority, local farmers
- all citizens
- Public administration, University
- water
- Bund, Land Vorarlberg
- Universities
- Everybody
- utilities, research, national/regional/local government
- water management directorates (esp. ATI-VIZIG and NEKI), national park directorates (esp. KNPI), concerned municipalities
- VITUKI
- SMEs
- Research institution EURAC
- National Institute for Environment, Ministry of Rural Development
- National and regional authorities resp. for environment
- Landeshauptstadt Stuttgart
- farmers, health sector
- agriculture/chambers of agriculture, mountain regions
- Water management
- Federal Ministry of Agriculture, Forestry, Environment and Water Management
- university, SME, NGO, society, own-government
- research institutions, universities, enterprises, state and public administration
- Universities, UBA, AGES
- Ministry of Environment
- City Development Authority of Prague, Prague City Council
- urban & regional authorities, land lords, entrepreneurs
- the whole society
- regional authority, insurance, agro and forestry
- Ministry of Environment, Industries, Economy, Social Partners
- municipalities, land users
- Wojewódzki Fundusz Ochrony Środowiska, Państwowa Straż Pożarna
- stakeholders in agriculture, water management, forestry
- municipality, regional development agencies
- communities
- Universities, Local Energy Agencies, Ezavod...
- water management authorities
- landscape and nature protection

HU

- University of Szeged
- First Hungarian Climate Protection Ltd. Nagykanizsa
- actors from agriculture, tourism, local residents, Directorate-General for the national disaster

preparedness

IT

- Environmental Protection Agencies, Regions
- Regions, Provinces, Mountain Communities
- ARPA Piemonte
- ARPA Piemonte– ARPA Lombardia
- Local authorities, citizens, associations,
- Local authorities, citizens, associations,
- Local authorities, citizens, associations,
- Local authorities, citizens, associations,

PL

- National Fire Brigade
- Foundation for Sustainable Development

SI

- local communities, R&D institutions, Slovenian Environment Agency, Ministry of Agriculture and the Environment, households, industry, agriculture

SK

- Municipalities
- Agricultural subjects, water management organisations, universities, organisations of the Ministry of Environment , NGOs
- Ministry of Environment of the Slovak Republic, Slovak Environmental Agency
- State Geological Institute of Dionyz Stur, Slovak Academy of Sciences

Identified target group in the field of “environment and resource efficiency”, sorted by countries

CZ

- Public institutions

DE

- user, manufacturer
- protection areas
- Bauhaus–University Weimar
- state and federal level with regard to laws, administration, environmental associations
- state government Steiermark, universities, research association Joanneum Research, Chamber of Commerce
- churches
- universities, NGOs, SMEs, municipalities
- Youths, agriculture, tourism, food consumers

- agriculture, consumers
- Amt der Sbg Landesregierung
- Federal Office for Environmental Affairs, WWF, Global 2000
- BOKU Vienna, university Graz
- BUND
- economy, public administration, citizens, media
- Ednergiebewusst Kärnten, Energy forum
- environmental associations in Kärnten
- Federal Office for Environmental Affairs (UBA), Associations for nature protection (BfN, BUND, NABU), Agricultural association, SDW
- regions and local actors
- municipalities, companies, transport firms, ministries, universities

EN

- local and regional administration
- water management, PV-solar-wind energy
- national and regional authorities, Environmental Protection Agency
- Local authority
- Umweltbundesamt
- transportation R&D
- Lombardy Region
- Center for European Initiatives (Ukraine),
- Research center and public laboratories (University) – public authority
- governmental authorities, cities and communes
- public at large and companies, public authorities, ...
- Agentura ochrany přírody a krajiny České republiky (AOPK ČR)
- ministries of Environment and Economic Development, citizens
- companies, administration, NGOs, open public
- public
- manufacturers, utilities
- efficient energy use in integrated perspective (not adding to social risk and with regard to demogr. change)
- Research centres (ENEA, CNR, Universities), Public regional bodies, technological and services centres, consultants
- city councils, local authorities
- Regional administrations, Local administrations
- City of Graz, Province of Styria
- SMEs, policy makers, students new generation, public at large
- ministry of environment
- municipalities, housing enterprises
- Ministry of Environment, CENIA
- state director within federal republic, regional planning authorities
- Energy Environmental Agencies, National and regional public administrations

- all spheres of society across public and private sectors and indiv households
- SMEs in agriculture, tourism, crafts
- CPC, Universities
- universities, chambers of commerce
- SIEA Trencin, Local authorities, Regional authority
- administration, City Region, Neighbor regions
- Universities
- Local public authorities
- car drivers
- Comune goverment, local and regional public administration
- National parks and protected areas
- factories in the region
- enterprises, administration, consumers
- Municipality of Vienna
- Provincial Governments/Departments, Federal Ministries/Government
- tourism, municipalities
- Local adinistratons, industry, consumers, research centers
- municipalities, university, research institutes, NGO
- Research, lobby groups, authorities, ministries for the environment/energy
- enterprises and industries
- SMEs
- all in the region!
- Municipalities, civic organisations, scientific bodies
- Municipalities, civic organisations, scientific bodies
- Protected areas, NGOs, research centre, local authorities
- Doerfler
- national government, local authorities
- Mesto Handlová
- small scale producers
- Administrations, Industry, citizens
- Regional authority
- tourism, municipalities
- as above
- the Ministry of Environment
- public
- People, Public Entities, SMEs
- all inhabitants, self governments, NGOs, ecological institutions
- Enel Energia, Italgas
- public administrations (Regione Piemonte, Arpa Piemonte, Province, Comuni), general public, parks and natural reserve
- business, ngos, municipalities
- National Park Directorate, Water Management Authority, local farmers
- medium and long distance traffic by rail (goods and passengers)

- SME, Public administration, University
- ZIT
- Europaschutzgebiet Böhmerwald – Mühltäler
- Land Vorarlberg, Gemeinden, big companies
- Universities, Political Parties: apply existing knowledge (instead of short-sight-money-and-votes-maximization)
- Regione Piemonte –Environmental department
- Universities
- society, town-dwellers
- Region, Municipalities
- BTU Cottbus, Vattenfall, SMEs in the region
- Government
- Wetzpomeranian Marshal's Office
- Regional and local authorities
- research, national/regional government, industry representatives, utilities
- Dél-Dunántúli Energetikai Klaszter
- NEKI
- local government, developers
- SMEs, municipalities and their institutions (schools, hospitals, cultural facilities, etc.), transport sector, wider public
- governmental sector, local authorities, research institutes, NGOs
- public bodies
- Dél-Dunántúli Energetikai Klaszter (South Transdanubian Energetic Cluster)
- Regional government and provinces
- All environmental NGOs, power companies, schools
- Ministry of Environment (restructured!), NGOs (Umanotera, Focus etc.), Public energy company (HSE)
- BOKU Wien, Freiland
- National Institute for Environment, Ministry of Rural Development
- National and regional authorities resp. for environment
- citizens, SMEs, public institutions
- Landeshauptstadt Stuttgart
- SMEs, craftsmen, municipalities
- regional and local communities, private companies, public administration, NGOs
- civil society, experts organizations
- SAŽP SR
- public and private sectors, citizens
- SMEs, public authorities
- Bundesministerium für Landwirtschaft
- Daphne
- SME, applied sciences (university Wildau)
- SMEs, industrial companies, federal environmental agencies, etc.
- Public and private sector, especially SMEs

- Administrations, Research bodies, Clusters, Associations
- villages and small towns
- Federal Ministry of Agriculture, Forestry, Environment and Water Management
- independent NGOs
- agricultural sector
- SME, NGOs, local people, public bodies/administration
- university, SME, NGO, society, own-government
- research institutions, universities, enterprises, state and public administration
- Environmental offices, environmental agencies, NGO
- firms, households, municipalities
- Ministry of Lower Saxony
- Agriculture
- avsi polska
- the whole society
- local communities
- urban & regional authorities, land lords, entrepreneurs
- University, Regione Emilia Romagna, Protezione Civile, ADIPO
- too many to select
- households
- Ica center Association
- Chamber of commerce, Ministry of Economy, Ministry of environment, regional development agencies,
- Higher education
- Wojewódzki Fundusz Ochrony Środowiska i Gospodarki Wodnej w Katowicach
- Local authorities
- land owners, municipalities, NGO envi
- Wojewódzki Fundusz Ochrony Środowiska
- citizens
- Ministry of Environment of the Czech Republic
- Danube waterway, VIA Donau, Danube Parks
- general public, public administration
- local authorities, citizens
- SMEs, LMEs
- enterprise, land owner, real estate agents
- Municipalities
- general public
- institution
- 3 county governments, 4 cities with county rank, Lake Balaton Development Coordination Agency
- Industry, Parliament
- Public administrations

HU

- companies, entrepreneurs
- self-governments
- IMRO-DDKK Non-profit Ltd. Nagykanizsa

IT

- municipalities and their associations, owners
- Regions, Provinces, Municipalities, Universities, Private Companies
- ARPA Piemonte
- Environment Departments (Regions and Provinces)
- public administration, firms, citizens
- Local authorities, provincial parks, associations and Citizenship
- Local authorities, provincial parks, associations and Citizenship
- Local authorities, provincial parks, associations and Citizenship

PL

- Heavy industry, road users (eliminating smog), officials
- Municipality Rybczewice (scutum Sobiescianum)
- SMEs
- all society
- as above
- government
- government, enterprises
- Fund for Environmental Protection Water Management
- Non Governmental, local government
- public, local and regional administration

SI

- centres of excellence, technological parks, enterprises
- municipalities, enterprises, people
- NGOs, ministries
- Ministry of Agriculture and the Environment, Association of Municipalities and Towns of Slovenia, Association of Municipalities of Slovenia, Ministry of Economic Development and Technology
- local communities, R&D companies, forest owners, public institutions

SK

- ZOO Bojnice
- Daphne
- NGOs, regional development agencies, government organisations, regional media
- BIOMASA – association of legal entities
- Slovak Environmental Agency
- Agricultural subjects, institutions (public administration, education ...), organisations of the Ministry of Environment , NGOs

- SMEs
- Slovak Environmental Agency, State Nature Protection
- Organisations using renewable energy sources, producers and recovers of biomass, towns and rural municipalities in submountain areas
- Ministry of Environment of the Slovak Republic, Slovak Environmental Agency, Forest conservation association VLK, Greenpeace Slovakia
- Universities, Slovak Academy of Sciences, the third sector organisations
- Regional and local governments, local action groups, public-private partnerships, NGOs, Management of protected areas, national professional institutions (Slovak Environmental Agency, State Nature Protection)
- Municipal Authority of Žilina, Department of Environment
- State Nature Protection, NGOs, Civil associations, scientific institutions, Constantine the Philosopher University in Nitra, Slovak University of Agriculture in Nitra
- Ministry of Environment of the Slovak Republic, towns and rural municipalities
- Secondary vocational schools, water enterprises, State Forests
- Slovak Environmental Agency, nature protection authorities
- State Geological Institute of Dionyz Stur, Slovak Academy of Sciences
- NGOs – People and water, BROZ

Identified target group in the field of “sustainable transport and key network infrastructures”, sorted by countries

CZ

- Regional administration
- Inhabitants, entrepreneurs
- Southern Moravia and Zlín Regions
- Municipalities, regions
- traffic accessibility, increased utilisation of railroads in freight transport
- Carlsbad Region, Regional administration and road maintenance of Carlsbad Region, Project and endowment management agency, Carlsbad business development agency (KARP)
- All inhabitants of the region, carriers, state administration authorities...
- Poublic Transport company
- Carriers, citizens, business providers, regional authorities

DE

- German Railway, local transport
- regional transport networks, mobility centres, transport ministries
- municipal and state transport development
- political levels: federal, state, city & administration of responsible departments; but also private investors (PPP models)
- ÖPNRV– Pinzgau, Pinzgauer Lokalbahn, ÖBB bzw. Postbus, SVV
- VCÖ
- freedom of barriers
- Amt der Sbg Landesregierung

- PGO
- Federal & state government, state administration, transport networks (regional & inter-regional)
- RHK Brno, Weinviertel Management
- East-west and south-north connections through Europe, Rhine-Valley-Railway
- bus company Barnim (Barnimer Busgesellschaft mbH), transport network Berlin-Brandenburg (Verkehrsverbund Berlin Brandenburg)
- senior citizens
- transport branch
- railway
- regions and local actors
- private and public transport companies for goods and persons; German transport association

EN

- Public service providers
- local and regional administration
- intermediaries, logistic service providers, operators
- wider public
- Regione Emilia Romagna, Comune di Bologna
- politics, administration
- Lombardy Region, Lombardy Provinces, State Railway Agency, National Road Agency
- The International Association of Regional Development Institutions
- public transport, regional transport, public roads
- Ministry of Transport
- governmental authorities, cities and communes
- research institutions, decision makers
- municipalities, Escos, private profit entities, Associations, citizens
- all kind of stakeholders
- eu funds, government
- relevant public bodies & operators, accompanied by transp/mobility experts (also private ones)
- public authorities, universities, operators, customers
- households, local and regional administration units
- The Region of South Bohemia
- municipalities, public transport operators, energy providers
- The Region of South Bohemia
- transport entrepreneurs, regional authorities
- Citizens, PMI
- public administration
- Municipalities – the municipality of Pardubice
- infrastructure providers
- Ministry of transport, Regional headquarters (council)
- Friuli Venezia Giulia Region + Regional Ports + Intermodal knots
- rail and road network national operators (SZDC, RSD), airports, operators of multimodal logistic centers

- Transcarpathia is a region with one of the highest concentrations of transport and logistics companies, associations, carriers,
- Regional and local authorities, economic system as a whole
- transport companies and government
- regional authorities
- National/regional/local governments
- Local public authorities
- Autostrade del Veneto
- city of Bratislava, region of Bratislava
- Comune government, local and regional public administration
- Regional authorities
- transport companies
- administration, enterprises
- companies (investors), inhabitants, public sector (owners)
- EU, BMVIT, Land für Rahmenbedingungen
- Provincial Governments/Departments, Federal Ministries/Government
- INTERPORT SERVIS Ltd. , US STEEL Inc.
- municipalities
- slovene government
- local and regional governments
- enterprises and industries
- all in the region!
- Olomouc and Zlin Region, cities (especially peripheral)
- Transport service providers, infrastructure managers, passengers' associations
- Doerfler
- ministry of transport, local authorities, citizens
- Companies who use road transport, terminals, associations
- AGENZIA MOBILITA' METROPOLITANA
- municipalities
- Local transport companies, research institutes
- General Directorate of Public Roads and Motorways, Viovodships' offices
- local self-governments, regions
- non-profit organizations, municipalities
- national transport agencies,
- People and Public Entities
- Società Autostrade, Trenitalia, Provincia di Torino, Regione Valle d'Aosta
- national and regional governments
- ÖBB Austrian Rail
- private partners, local and regional actors,
- passenger
- logistics companies (Network Logistics Leipzig-Halle)
- Veneto Region
- Shifting transport towards rail traffic

- Regione Piemonte and research institutions
- AustriaTech
- OEBBGemeindeverband Regionalverkehr Oberes Mühlviertel
- Land Vorarlberg, Verkehrsverbund
- companies
- Traffic-&-landuse-&-agriculture-MINISTRY (equipped with legal power for common good, stronger than market-interests)
- Regional government, Ministry for Transport, Innovation and Technology
- Region, Municipalities, SMEs, Transport Modes Operators
- transport providers, multimodal operators
- Westpomerianian Marshal's Office
- Transports companies, regional and local authorities
- ÖBB
- Transport Operators and Local Authorities
- RFI
- both local and national administration
- Public Transort & walking network
- transport organisations, government, transport professionals
- cooperation between municipalities, national and local authorities, public transort companies and transport companies/NGOs
- Local and regional administration
- public bodies
- Regional and local government
- Mobility departments, environmental NGOs
- LPP
- Marshall Office
- SZKT, Szeged Megyei Jogú Város Önkormányzata
- Dialogue and Deliberation with inhabitants and users
- Local and national governments, transport companies
- Rail and inland waterway transport stakeholders
- Enterprises, residents
- municipalities
- Municipalities
- public sector entities, business sector
- Salzburg AG
- civil society, Federal Ministry for Transport, Innovation and Technology
- Magistrat für Stadtentwicklung, Land Niederösterreich
- Public transport enterprises, public institutions
- Administrations, Agencies, Research bodies, Transport providers
- Puzblic admibnistration
- individual traffic, trucks
- Regional Authority
- Local/Regional Authorities, Government; policy makers; Professional Institutions and

- local/regional SMEs
- Ministry for Transport, Planning authorities
- Public administration of the Province of Styria and the City of Graz, public transport providers
Graz Linien, ÖBB, Postbus
- Szczecin and Swinoujscie Seaports Authority S.A., Bytomska 7, 70-603 Szczecin
- Transport Operators
- ministries, state
- Silesian University of Technology
- national rail, regional administrations
- Prague City Council
- government, regional and local representatives
- urban & regional authorities, logistic org. + entrepreneurs
- Regional Administration, Local and Interregional Bodies for management of motorways,
railway connections, airports and ports
- Public transport operators and providers, municipalities, NGOs
- the whole society
- Regional and interregional sea ports, intermodal nodes, airports, railway and motorway
connections
- urban & regional authorities, logistics, entrepreneurs
- railway infrastructure
- Regione Emilia Romagna
- Railway companies and non-automotive transport associations
- (public) transport companies, VBB (Berlin-Brandenburg transit authority)
- the municipality and the municipal enterprises
- VOR
- Higher education, transport service providers
- Urząd Marszałkowski Województwa Śląskiego
- remote areas populations, rural subjects
- Slovak University of Technology /STU/ Bratislava, Zilinska univerzita v Ziline
- www.eurobus.sk
- Public transport companies, non-profit sector
- PPP projects – ministry + private sector
- Bratislava City
- Ministry of transportation of the Czech Republic
- Regional authorities
- intermodal / multimodal
- middle class
- Regional Councils and Parliaments
- SMEs, LMEs
- Alliances
- public transport
- transport, suppliers
- University of Maribor

- Urban transport companies, railway companies
- trenitalia, public and private rails, autostrade, ferrrovie, sea ports
- regional and local self-government, transport operators
- municipalities and peripheral regions

HU

- MÁV – Hungarian State Railways Co.

IT

- local and regional authorities, public railway company (FS), research centers (Polytechnic University)
- Region, Chambers of Commerce, private companies, public associations and private association of categories
- Metro Mobility Agency (Agenzia Mobilità Metropolitana)
- sole shareholder SDAG SpA and companies located in the area
- public railway company (FS)
- firms, citizens, municipalities
- Associations

PL

- regional and local governments
- General Directorate for National Roads and Highways, local governments
- SMEs
- private entrepreneurs, local government
- Świętokrzyski Voivodship Road Management
- Deepwater Container Terminal DCT Gdansk
- provincial roads, a network of small airports
- governments, railway,
- local government units and their organizational units
- The local community
- entrepreneurs and all residents
- Association of Bicycle Szczecin
- City Commune Szczecin
- Commune municipality, West Pomeranian Voivodeship, City of Szczecin
- Enterprises
- Ministry of Infrastructure, Ministry of Regional Development, City of Radom
- local governments (boards of public road and boards of transport, the carrier transport, the association engaged in the subject)
- Railway transport operators
- the national motorway network, development of roads around the urban areas
- Wejherowo Society of Cyclists
- Association of Critical Mass Bydgoszcz
- public administration local and regional, General Directorate for National Roads and Motorways,

- the railway communications, aviation and road infrastructure managers
- Association of Bicycle and road operators
- Polish State Railways
- municipality Polanów
- Wroclaw Cycle Initiative
- public administration local and regional, General Directorate for National Roads and Motorways, the railway communications, aviation and road infrastructure managers
- Wroclaw Industrial Park, companies located in their area

SI

- ministries
- ministries
- R&D, SMEs, users
- Ministry, regional development agencies, municipalities
- Ministry of Infrastructure and Spatial Development, Association of Municipalities and Towns of Slovenia, Association of Municipalities of Slovenia

SK

- Self-governments regions
- Transport Research Institute Žilina, self-governing region
- Employees, students, pupils, Railways of the Slovak Republic, Slovak Bus Transport Companies, urban public transport, private transport organisations
- Railways of the Slovak Republic, Slovak Bus Transport Companies
- HBH Projekt – an independent design, consulting and engineering company with broad range of experience in development of transport infrastructure
- Ministry of Transport of the Slovak Republic, Regional governments NUTS III level, towns and rural municipalities
- Slovak Road Administration, selfgovernment, municipalities, towns
- Ministry of Transport of the Slovak Republic
- Transport Company Bratislava

Identified target group in the field of “employment and labour mobility”, sorted by countries

CZ

- Craft associations

DE

- Governments at EU, federal and state level (regarding questions of social security exchange when crossing the border), firms, firms' associations
- BMVIT; BMWFJ; BMASK; AMS; WKÖ;
- Women, migrants, elderly
- AMS, AK, WK, ÖPNRV– Pinzgau, SVV
- AMS, municipalities, firms, qualification and employment at secondary labour market
- labour market access for marginalised population groups

- regional management, AMS, WKO
- ÖGB, Arbeiterkammer
- employment agency
- employment agencies
- AMS
- tariff parties
- AMS

EN

- labour offices, business intermediaries
- national and regional authorities
- Employment offices, enterprises
- transportation R&D
- Politicians, Governmental Institutions, Local Authorities
- youth employment, adult employment
- regional companies,
- absolvents
- taxes, accessibility
- Ministry of labour, family and social affairs Slovenia
- NEETS
- workers unions, unemployed labour force, students
- Chamber of Commerce
- Chamber of Commerce
- work force and unemployed people
- Emilia Romagna Region, Industrial Associations
- Citizens, PMI
- NGOs supporting young entrepreneurs by training and coaching
- National Level Administration
- enterprises, administrative institutions
- Ministry of social affairs, Regional and municipal council
- households, national, local and regional governments, firms
- citizens, teachers, students
- regional authorities
- SMEs
- intermediaries, universities, industry
- waff
- Public Institutions / Trade Unions / Agencies for job/education orientation
- INTERPORT SERVIS Ltd., US STEEL Inc.
- AMS Steiermark
- I do not understand this question
- Training Centres (like Treviso Tecnologia or Cescot Padua)
- Regional Department of Work/Employment
- public administrations, business associations

- SMEs
- Municipalities, national organisations (governmental bodies), economic actors
- NGOs, municipalities
- Government
- Doerfler
- unemployed people registered at the employment office
- young university graduates
- employment centers
- National legislation to be applied to the regional level – Regional DG Employment, Labour and Training
- Industrial associations
- PES, ministry labour, EURES and other european networks, job seekers, employers , european commission
- Government – Ministry and thier regional agencies
- Youth with high level specialization
- regional development agencies, rural authorities
- ministeries,
- investors, students, academic centres, self governments, all inhabitants
- Labour offices, Ministry of labour, Local partnerships
- ministry, industry, university, vulnerable groups
- Veneto Region; Provinces; trade unions
- employees and companies
- Regione Piemonte
- young highly educated people (usually from social sciences)
- young people, over 45, women
- chamber of labour
- Industry, commerce, society
- Inhabitants, NNO, Municipalities, Region, SMEs, Educational agencies
- youth qualified labour
- government, firms
- Governance
- Governance
- Young people, Older workers
- new ways of economy
- Arbeiterkammer
- Dél-Dunántúli Munkaügyi Központ
- regional job centre
- Dél-Dunántúli Munkaügyi Központ (Labour Center of the region)
- Schools, young people, local authorithies
- public enterprises + – authorities, ICT sector,
- Decision-makers
- Commuters
- rural population with low education

- National and regional authorities resp. for education and training
- enterprises, schools, universities, public institutions
- Ministry for Employment and also Municipalities
- Unemployed people, career counsellors
- ministry of social affairs
- Central government
- Ministry of National Economy
- young people, recent graduates
- Youth, unemployed people
- Regionaler Entwicklungsverband Voitsberg
- university, SME, NGO, society, own-government
- firms, state and regional public administration
- PES, Municipalities
- persons older than 40 years
- regional, sub-regional, local administrations
- young educated people and 50+
- government
- urban & regional authorities, teachers, entrepreneurs
- Regional Administration, Enterprises, Labor Unions, Education and Lifelong Learning Centres
- the whole society
- consulting and knowledge transfer
- Youth, unemployed people, enterprises, labor unions, education and lifelong learning institutions
- Austria-Slovenia
- universities
- Wojewódzki Urząd Pracy w Katowicach
- Social Partners, Government
- Trade unions, Enterprises
- youth employment, min. of economy and labour
- www.novidea.sk
- state + private sector
- young people / over 45
- Gipsy minority, young people
- Super job agency
- middle class
- InnoZ Berlin
- young entrepreneurs/would be entrepreneurs
- Private Sector Companies; Central Government Ministry of Finance
- Arbeitsmarktservice
- Employment Service
- Chamber of commerce
- employers, companies, insurances
- institutions, associations

- youth and retired persons
- IV
- labor market services, chambers of commerce, ministries of labor

HU

- Non-profit organisations
- newly graduated students
- National Labour Office

IT

- enterprises and their associations
- Public Authorities – SME
- Municipalities and agencies for the development of cross-border area Gorizia–Nova Gorica–SempeterVrtojba
- Trade unions (CGIL, CISL, UIL and UGL England), training organizations
- firms – workers
- University, research centers
- trade unions, training organizaztions
- local authorities
- trade unions, training organizations

PL

- employment agencies, local and regional authorities
- regional and local governments, NGOs
- local governments
- unemployed, young people, people increase the skills
- the whole society
- society
- graduates and persons 50 years of age
- SMEs
- labor offices
- unemployed women after maternity leave, young with higher education with no experience after graduation
- NGOs, government
- Labour Offices, Higher Schools
- District Labour Offices, Voivodeship Employment Agency, Universities
- Labour Office
- local administration units
- Polanów municipality
- young people entering the labor market, a person around 50 years
- women 45 + and young people up to 24
- Lower Silesian Voivodeship Labour Office

SI

- Employment Service of Slovenia
- Employment Service of Slovenia
- NGOs
- Ministry of Labour, Family and Social Affairs, Association of Municipalities and Towns of Slovenia, Association of Municipalities of Slovenia

SK

- Central Office of Labour, Social Affairs and Family
- Office of Labour, Social Affairs and Family, secondary schools
- Labour offices
- Vocational schools, universities, social authorities, NGOs
- Young people, educational institutions – colleges, universities
- Residents of productive age, taking into account commuting and travel costs
- Regional and local governments, local action groups, public-private partnerships, NGOs
- Office of Labour, Social Affairs and Family
- Employment offices, Business Innovation Centres, Association of Employer Unions
- Ministry of Labour, Social Affairs and Family of the Slovak Republic
- Labour offices, towns, rural municipalities, selfgovernment
- Office of Labour, Social Affairs and Family
- Ministry of Labour, Social Affairs and Family of the Slovak Republic
- Selfgovernments of NUTS IV, V
- Ministry of Labour, Social Affairs and Family of the Slovak Republic
- Ministries

Identified target group in the field of “social inclusion and combating poverty”, sorted by countries

CZ

- Moravia-Silesia Region
- Problem localities

DE

- NGOs
- political levels: federal, state and city; administration with focused studies; finally also the society
- municipalities, regions, employment pacts
- participation in society of all people
- city of Vienna
- migration platform Villach
- young unemployed people
- Bundes- Landesregierung, soziale Einrichtungen
- welfare care; city; district

- disabled people, youths
- ministry for social affairs
- federal government
- unions, municipalities, citizens' initiatives, Attac

EN

- RDA, authority
- Regione Emilia Romagna, Comune di Bologna
- politics, administration
- Government
- Intercultural Center Massimo Zonarelli – Bologna
- Ministry of labour, family and social affairs Slovenia
- disabled people
- old age poverty, residential segregation and poverty concentration in (shrinking) cities
- municipalities
- Local Administration, associated local public institutions
- municipalities, NGOs
- Ministry of Labour, RIC Novo mesto, Municipality of Novo mesto
- from national to state to communal authorities
- households, communities and local governments, NGOs
- rural areas
- NGO, regional authorities
- civil organisations, non-profit sector, public institutions
- People living in remote rural areas.
- regional authorities
- unemployed people, people with low income
- schools, local administrations, churches
- I do not understand this question
- all families and public/private organization (including voluntary association)
- MOR INVOLVEMENT OF ASSOCIATIONS IN CENTRAL PROJECT
- Regional Department of Social Affairs
- immigrants, elderly persons
- all families and public/private organization (including voluntary association)
- local and regional authorities
- roma minority
- National legislation and incentives to be applied to the regional level – Regional DG Social Policies
- Roma community and socially excluded
- NGOs, adult education institutes, trainers,
- Local partnerships, Ministry of Labour, Regions
- ministry, university, vulnerable groups
- NGOs, Migrants
- state government, local authorities, regional enterprises

- all citizens
- Government
- municipalities
- the lower middle class
- poor people, older, disabled
- cohousing groups, enterprises, all institutions
- working poor
- government of Upper Austria
- roma population, the poor
- Inhabitants, NNO, Municipalities, Region
- Capabilities
- Capabilities
- Regional Labour Office
- voluntary work organisations, non profit organisations,
- regional labor market
- Regional and local government, NGOs, Associations
- Marshall Office
- rural, low skilled, unemployed population
- migrants, municipalities
- Roma minority, excluded groups
- Central government
- Kirche
- public institutions, institutions in the field of education, non-profit organisations
- border districts
- Public bodies, private sector
- NGOs
- NGOs, local people, public bodies/administration
- Člověk v tísni
- self-governments, state and public administration, research institutions, universities
- mothers returning after maternity leaves
- poor and old
- German Government
- the whole society
- ethnic minorities in CEE
- regional authority, NGO, banks
- no data
- <http://www.upsvarsn.sk/>
- public institutions
- gipsy minority
- migrants and ethnic minorities, long term unemployed people
- middle class
- City Mayors
- Regional Social Services

- regional authority
- young population (25–35), elderly people (retired, jobless)
- associations
- Roma population

HU

- Non-profit organizations
- LEADER local action groups (15 in South Transdanubia)

IT

- Regions, municipalities and NGOs

PL

- NGOs
- local governments
- unemployed, young people, people increase the skills
- the whole society
- local governments, NGOs
- people with low incomes and low education
- The creation of preferences for SMEs
- City Commune Szczecin
- women dependent on men, the generation of 60 +
- activation of the unemployed by offer to work with training
- City Hall
- units of social assistance, including the Regional Centres of Social Policy
- Regional Centre for Social Policy, Municipal Social Welfare Centre, public hospitals

SI

- social institutions
- social institutions
- NGOs

SK

- Office of Labour, Social Affairs and Family
- Yes for Life (Ano pre život)
- Minorities, civil associations, foundations
- Social authorities, NGOs
- Severely disabled people, people in material need
- Homes for the elderly, children's homes, asylums
- Municipal Authority of Žilina, Department of Social Affairs and Health
- Selfgovernments of NUTS IV, V
- Košice self-governing region

Identified target group in the field of “education, skills and lifelong learning”, sorted by countries

CZ

- One-track/narrowly oriented expert groups (staff) of technology branches
- Inhabitants, education institutions at all levels,
- Staff and entrepreneurs within the region
- Unemployed
- Youth
- Secondary technical schools, Universities with branches in Carlsbad Region, Carlsbad Region
- Regional employers, inhabitants of the region....
- Public sector – school system, universities
- of J. E. Purkyně University in Moravia, Banking Institute, comprehensive schools (gymnasiums) and secondary vocational schools in Ústí Region
- Small and Medium Enterprises (SME)

DE

- schools, associations, firms
- older employees
- educational institutions (bbw), schools, chambers (IHK, HWK)
- BMWF; BMUKK; WKÖ; AMS;
- Bauhaus-University Weimar
- ministry of education, universities, cultural institutions, schools
- universities, federation, state of Steiermark, chamber of commerce, AK,
- youths
- school administrations, schools (especially secondary modern resp. Grammar school)
- NGOs, which primarily work across the border
- science, culture and sport associations
- youths, universities, institutions for general education, employers and employees
- population in general, NGOs, educational institutions, regional management
- BM, LEADER-region, regional management
- adult education centre
- schools of all kinds, adult education centres
- district
- regional council KA
- UNI-Klagenfurt
- governments at federal, state and municipal level, including schools, universities, WIFI, etc.
- foreign fellow citizens
- federal & state government, educational institutes, education related institutions, social institutions, companies
- educational institutions
- schools, educational institutions, chambers
- youths, senior inhabitants, older employees
- school system, educational sector, labour market policy
- state government

- state government
- schools, welfare organisations, universities, migrants' associations

EN

- historical jobs such as fisheries
- from children to teenagers, students, researchers and lifelong learners
- ministry for education (national), educational institutions (adult education; regional/lokal), policy maker, enterprises
- NGO, Pedagogical and other associations
- Regione Emilia Romagna, Comune di Bologna
- politics, administration
- Lombardy Region
- Public and private institution/association that actively support citizens (at any stage of the life and career)
- mobility of adults and professionals, internship programmes
- Instituto Cervantes Praha
- research institutions, decision makers
- Government
- companies, universities, schools, open public
- employees, older people
- students
- ministry of science and higher education
- poor and disabled people
- University of South Bohemia
- Pupils
- municipalities, non-governmental organisations, kindergarten, basic schools, universities, further education providers
- University of South Bohemia
- Pupils
- all
- Higher Education Institutions in the EU,
- Education providers, Senior associations
- teachers on all levels
- schools, SMEs, policy makers
- this need is common to all in the Czech Republic
- schools and universities
- Ministry of Education Board of Education, all schools, Adult Education Centre of Slovenia, RIC Novo mesto, Ljudska univerza Kočevje,
- National and regional public administrations, local cultural associations, schools institutions
- firms, households, individuals, governments, educational establishments
- universities, further educational institutes
- non profit institutions
- SMEs generally, SMEs in tourism

- popular schools
- Wyższa Szkoła Gospodarki, 85-229 Bydgoszcz, ul. Garbary 2, Poland
- Graduate and post graduate students, students in vocational education
- CNR / University
- Regional Authority, Regional Chamber of Commerce and Industry
- students in secondary and higher education
- Ukrainian National Forestry University, Lviv
- public
- new ways of education and training for knowledge and digital society, interconnection with practice – living lab concepts
- chambers and companies
- educational institutions
- schools, vocational training institutions, elderly
- Universities, Schools
- public
- Educational Institutions / Vocational Training Agencies
- Provider for support of training and continuing education
- Universities, VET institutions
- all people, woman and people with special needs
- students, schools, cultural associations
- Internationale Handelskammer, Handwerkskammer
- all people, woman and people with special needs
- Tourism businesses and tourism organisations, schools and universities
- HELP n.o.
- University of West Bohemia
- non profit organization
- training agencies, regional institutions, ministry education
- Municipal authority
- GSO Hochschule, FAU Erlangen
- schools, universities, local govt.
- public administrations (Regione Piemonte, Arpa Piemonte, Province, Comuni), general public, schools, universities
- Social networks
- Vienna Board of Education
- SME
- IST AUSTRIA – Gugging, Klosterneuburg
- broad population and sustainable qualifications for the economy
- Government
- enterprises, human resource developers
- universities
- Gruppe angepasste Technologien
- administration
- general society (kindergartens, primary schools, middle schools, high schools,

- volkshochschulen, bifi, ...)
- Improve and not destroy existing quality-High-Schools by worldwide 'Education-for-the-Rich' systems
- University of Primorska
- JKU
- the undereducated, society
- to be established – cross national network of business groups
- entrepreneurship
- universities, schools
- Educational Administration, City of Cottbus
- Stakeholder Interests
- Stakeholder Interests
- Young people, adults
- further & adult organisation, combining traditional and new skills (e.g. map reading&orienteering – routing&navigation systems
- Scholls and Universities
- universities of applied sciences
- yes, everybody one day a month
- universities, Academy of Sciences
- low-educated workers, ethnic minorities
- Szechenyi University
- SPES Familien-Akademie
- public education provider, SME,
- dual education stakeholders
- AMS, Austrian Territorial Pacts, Universities
- everybody...
- National education and training institutions
- schools, universities
- young people; ageing population; VET providers – public and private; social partners
- Older people, early school leavers
- politics/public education system;
- ministry of education
- Central government
- Ministry of Education; Universities
- Ministry for Education, Science, Culture & sport; Ministry for Labor, Family & Social Affairs
- schools, universities (applied sciences), adult education entities
- public sector, research, companies
- teachers at all levels of education system
- AMS, Wirtschafts- und Sozialpartner (WKÖ + AK), sekundäre und tertiäre Bildungseinrichtungen
- public education – secondary and tertiary levels
- independent NGOs
- Ausbildungsverbund Voitsberg
- All schools types

- Slovenská akademická asociácia pre medzinárodnú spoluprácu
- university,SME,NGO,society,own-government
- schools, teaching institutions, universities
- State institute of vocational education, PES, Municipalities
- innovation
- secondary schools, universities, companies, public authorities
- more practical learning, not just theory
- High Schools
- universities, technology oriented high schools
- important for all
- government
- Schools
- schools
- Teachers, elder people
- University, People
- Regional business associations of SMEs (no stock companies)
- Urząd Marszałkowski Województwa Śląskiego
- Ministry of Education; Ministry of Science
- Slovak University of Technology /STU/ Bratislava,Zilinska univerzita v Ziline
- large established Universities, recently-established private Universities (Ukrainian Catholic University), private training
- Regional administrations, universities
- universities, schools, government
- elementary and high schools
- Zakład Szkolenia Ustawicznego, Zakład Doskonalenia Zawodowego,
- young generations
- young people, highschoools
- Universities, Regional authorities
- young children
- young children
- elderly workers, unemployed people, migrants
- rural population
- unemployed top-managers wanting to create a business/invest in SMEs
- DHBW Lörrach, Kaufmännische Schulen, VHS, Schulen Lörrach
- school authorities
- general public
- lobby
- public education
- Schulungszentrum Fohnsdorf
- Univesities
- universities
- universities, high schools
- public authorities (experienced professionals leaving to private sector)- local/regional/state +

- secondary schools with capacity
- ICT, spatial planning and development, cultural heritage, universities
- schools, associations
- low skilled work force, education early-droppers
- Länder
- concepts starting at kindergarten age, with special respect to children with migration backgrounds
- Schools
- VET training institutions, adult education institutions

HU

- secondary schools, vocational schools, civic organisations
- universities
- universities, Dunaújváros College
- Non-profit organisations
- University of Szeged
- Inhabitants of Miskolc urban region

IT

- Public Authorities – University – School
- Provinces
- firms – workers – training agencies

PL

- public administration, entrepreneurs and citizens
- teachers, NGOs
- Piaski municipality
- local government, universities
- young people, the unemployed, people, who increase the level of skills
- the whole society
- university
- people excluded because of the volatility of professional labor market
- Schools of higher education
- education and training centers
- Local government units, schools and universities
- youth and are in production age
- Education, skills and lifelong learning
- Regional Centre of Road Traffic
- Mazowieckie voivodship government, the Ministry of Education
- kindergartens, schools, NGOs
- Learning centers, vocational training establishments
- increase the level of education, learning foreign languages
- Polanów municipality

- Schools at all levels
- Uniersytety of the Third Age, Ministry of National Education, Ministry of Science and Higher Education
- local and regional public administration
- women 45 +

SI

- NGOs
- Slovenian Institute of Quality and Metrology, MIŠKA, education and event organization, Ltd, Ministry of Education, Science, Culture and Sport

SK

- Universities
- NGOs, regional development agencies, regional media
- Educational institutions and educational associations
- all age groups of the population
- Vocational schools, universities, social authorities, NGOs
- Ministry of Labour, Social Affairs and Family of the Slovak Republic, non-profit organisations and NGOs
- Secondary schools, universities
- Vocational secondary schools
- Department of Andragogy, Faculty of Philosophy Comenius University
- Municipal Authority of Žilina, Department of Education and Youth
- Universities, schools and vocational training centers
- Ministry of Education of the Slovak Republic
- Schools / universities, towns and rural municipalities, educational institutions
- Ministries

Identified target group in the field of “institutional capacity and efficient public administration”, sorted by countries

CZ

- In general
- Public institutions (impact upon respective inhabitants)

DE

- state government, municipalities, external consultants, economist for administrations
- municipalities, state, federal level
- municipalities, firms' associations, universities, incubators
- Amt der Sbg state government and municipalities in central area
- new governance structures
- state goverment
- all levels of administration
- unions, employees of public administration

EN

- Regione Emilia Romagna, Comune di Bologna
- Politicians, Local Authorities
- e-government, e-administration
- research institutions, decision makers
- government institutions
- ALMA MATER STUDIORUM – Bologna
- all ministries
- public bodies concerned, also involvement of enterprises providing e-solutions & services
- public sector – all levels
- Ministries working on making the public sector more efficient (NGM, KIM)
- public officers, politicians
- Municipalities – especially the Municipality of Pardubice
- Region and Municipalities
- ministries and regional authorities (kraje)
- National and regional public administrations
- government agencies
- State, local authorities and local governments of Transcarpathia region
- public authorities on local, regional and central level
- state and regional government
- Regional and local authorities, economic system as a whole
- Local public authorities
- city of Bratislava, Region of Bratislava
- Regional authorities
- micro-region
- local administrators, but also all people, to claim a better administration
- slovene government
- Local and regional administrations
- Veneto Region and Bigger municipalities, ULSS, Public Agencies
- National Department for Public Administration
- Municipalities, civic organisations
- micro-region
- regional and local governments
- Ministry of interior but institutional capacity is sadly missing
- regional governments
- ministry of interior, local authorities
- Professionals, SMEs, all social categories, citizenship
- Bayern Innovative
- the Ministry of Internal Affairs
- Region
- City of Vienna
- Regionale strukturen wie RM's + Landes- und Gemeindeentwicklung

- national government, municipalities, ngos
- National, regional and local administration
- every citizen
- Government
- civil servant, politicians
- NGOs – citizens (cannot participate)
- By continuing to treat our societal institutions as entities, by thinking of their organizations as static trees, by t...
- LEADER Region Donau-Böhmerwald
- Regione Piemonte –Environmental department
- Frank Stronach Institut, Oberwaltersdorf
- mid-level managers of public institutions, school directors, managers of local authorities
- Administration in Cottbus
- Local Authorities
- Landesregierung
- representatives of private sector, research and public administration
- national ministries and regional governments
- Ministries, Civil Society Organisations, Lawyers
- public administration
- administrativ district authority
- Ministries, division of labour between federal and provincial level, PPP
- Ministry of justice and Public Administration
- municipalities, governments
- Universities, development agencies
- local government/admin.; enterprise networks – federation of industry
- Central and regional government
- municipal (selections from region) and county administrations, vertical networks
- PA on each level (municipality , province and regional ones)
- officials and politicians (Service Act)
- based on the thematic fields the different bodies on national/(sub)regional/local level
- local administration
- higher education facilities – a prestigious scholl for pblic servants
- Inštitút pre verejnú správu
- university,SME,NGO,society,own-government
- self-governments, state and public administration, research institutions, universities, civil associations
- Land offices, city authorities, landscape authorities
- municipailities, state and regional administration
- Bund, Länder, UBA, AGES (regarding the selcted issues)
- ministries, regional administration
- government, their institutions & municipalities
- administration in general
- the whole society

- local governments and regional development
- citizens' action committee
- all relevant public bodies
- Public administration at national, regional and local level
- central government and regional one
- no data
- Lubuski Urząd Wojewódzki, Urząd Marszałkowski
- Public authorities
- public administration of all levels
- Civil service (public sector Departments of State)
- general public, SMEs, LMEs, other public bodies
- Ministries, Municipalities
- Local and regional authorities, elected officials, city managers, planners, experts etc.
- Länder/Städte
- Ministries dealing with migration (MoInterior, MoLabor, MoForeignAffairs)
- monuments protection and management

HU

- local self-governments

IT

- local institutions
- local authorities

PL

- public administration, entrepreneurs and citizens
- "ordinary" citizens, government, institutions, enterprises
- administration, young people, unemployed
- Province Governor
- local government
- Szczecin Association of Bicycle
- local governments, associations
- Lubuskie Marshal's OfficeLubuskie Regional Office
- City Hall Reda
- local and regional public administration
- Ministry of Regional Development,Ministry of Administration and Digitization
- president and his entourage

SI

- ministries, public institutes, municipalities
- establishment of regional structures, municipalities, supporting institutions
- Ministry of public administration

SK
- Regional and local governments, local action groups, public-private partnerships - Third sector, civil associations, NGOs, social services homes, children's homes, microregional associations - Ministry of Interior of the Slovak Republic - I do not know
Identified target group in the field of "other needs (not covered by the main challenges)"
-
Specified involvement of the interviewees institutions/organizations in the ongoing CENTRAL EUROPE Programme
-
Specific topics for the selected subjects of interest as named by the interviewees
Specific topics named for the subject of "research, technological development and innovation", sorted by countries
DE
- equal opportunities in R&D
EN
- Research and development in sustainable technologies in agriculture - R and D in sustainable, energy independent food production - Avoiding overlaps with other DGs programmes!!!! DG Enterprise and DG Research - Technology Transfer - Cleaner Production: Ökologisierung d. wirtschaftlichen Produktionsprozesse, Methodenentwicklung für Umgang mit Umweltinformation - no weapons production - research for action plans and regional development programs, potential analyses - gender and diversity in research, mutual learning approaches, knowledge transfer to policy makers, communicating research - regional competitiveness - creative industry innovation - no - Regional framework for innovation - R&D Projects sorted by excellence not by topic - Research for social risks of development issues - small scale innovation potentials - Actions supporting start-up - research in urban development - emerging infectious diseases, invasive alien species (moving through the Danube basin from the Black Sea to Central Europe) - best practice transfer - Applied research in Town and Country Planning

- cluster cooperation
- Agriculture and food safety

HU

- Networks of universities, exchange of students and teachers
- utilisation of research results in business

PL

- building cooperation Research & Business

Specific topics named for the subject of “access to and use and quality of ICT”, sorted by countries

EN

- special needs and families
- eDocs in Transortation
- knowledge management
- security and access systems;
- ICT Security / Critical Informatics Infrastucture Protection

SK

- Digitalisation in repository institutions
- Automatic processing of data for evaluating trends, changes in the environment (e.g. climate change, runoff, groundwater)

Specific topics named for the subject of “competitiveness of SMEs”, sorted by countries

CZ

- Support of enterprises and of the development thereof

-

DE

- increasing level of innovativeness of SME
- improvements of information with regard to financial and legal framework of SME
- Andere Themen dieser Kategorie

-

EN

- attracting new (creative) businesses in the local area
- creation of a supporting economy in the environment of SMEs
- Avoiding overlaps with other DGs programmes!!!!!! DG Enterprise and DG Research
- branch networks
- Sustainable tourism developmetn
- internationalisation of SME's
- I chose Improvement of business environment!!!
- Improving of business environment

- SMEs in rural areas
- no weapons production
- Tourism development
- Promoting local products and their territory's attractiveness
- innovation and research cooperation
- cooperative networks, social services for SMEs
- capacity building in innovation strategy
- Regional framework for entrepreneurship development with cross-sectoral approach
- Increasing the competitiveness of the creative industry SMEs
- supporting SME in conquering new international markets
- integration university capacity to help SMEs
- early stage investment tools
- SME access to finance
- new opportunities for hitech firms
- support to exporters outside the EU
- internationalization
- cooperation SMEs with R&D
- stimulation of additional resources for business development, e.g. venture capital
- Promoting the development of local economies

IT

- development of youth employment in the field of cultural tourism
- Networking between businesses in the area to increase visibility and competitiveness; adoption of ICT tools
- promote the internationalization

PL

- The availability of capital

SI

- management IL

SK

- Awareness of SMEs and citizens, change in the perception of entrepreneurship
- Economic instruments

Specific topics named for the subject of "low-carbon economy in all sectors", sorted by countries

EN

- energy efficient spatial structures
- education on this topic, raising awareness in general public
- new financing models for regions
- "Low Carbon Society": Klimaschutz und eine nachhaltige Energieversorgung auf dem Weg zu

einer Low Carbon Society - promotion, communication, training - renewable energy economy as a way to social cohesion - energy storage systems - promoting environment conscious consumption - Propulsion systems in transport (Co2-neutral vehicles) - Regional strategies to increase the potentials of renewable energy - all subjects of this category (multipl choice works better !) - all subjects above ! - Energy efficiency in primary and secondary industries PL - distribution low carbon energy sources SK - Energy efficiency measures in the form of a grant scheme available for natural persons
Specific topics named for the subject of "climate change adaptation, risk prevention and management", sorted by countries
DE - awareness raising, life style EN - vulnerabilty and its reduction - enhance civil protection capacities - climate responsible urban planning - new financing modells for regions - new landuse policies - biodiversity issues - water river basin management and landscape issues - fore casting systems - water river basin management and landscape issues - research and action plan on adaptation in urban areas, facilitate social discussions - Developing civil protection local plans, including testing and active participation - social structure (governance) for adaptation to climate change - Education and Research in the field of climate change and how to adapt regional actions to a changed environment - Safety of road transports; Minimization of industrial risks - flood risk and management - Risk management, effective and safe water management - migration corridors as mitigation measures f climate change impact - spatial planning - Disaster waste management strategies - zero-emission public transport

- Research and communication
- CO2 reduction

PL

- protection of air
- development of active tourism with the use of environmental resources

SK

- Solutions for the prevention of environmental risks, optimisation of steps that would lead to the improving state of climate

Specific topics named for the subject of "environment and resource efficiency", sorted by countries

CZ

- soil and water protection

DE

- adjustments to draughts in agriculture, soil
- energetic urban development
- measures to reduce climate relevant emissions

EN

- water
- regional value-added chains
- biorefineries
- industrial heritage in brownfield sites
- boosting a new environment friendly culture among young people and public at large
- social justice of energetic renovation
- Sustainable local development
- „Sicherung des Naturkapitals für die Gesellschaft“ und „Sustainable Consumption“
- focus in brownfield sites regeneration is the main focus as Slovene government does not have a specific programme for cofinancing
- soil erosion control
- Promoting sustainable tourism – Local food-chains
- Reduction of energy need in built environment (organisations as well as residents)
- sustainable urbanised land use
- no weapon production
- Res central heating, use of waste heat, refuse water re-use
- Zero waste, C2C, communication of strategic approach and benefits
- Energyefficient construction, energyefficiency benchmarking and monitoring, renewable energy
- sustainable lifestyles, prosuming, power of consumer, village green
- Implementation of Renewable Energies in all national construction projects
- multifunctional use of ecosystems and green infrastructures
- River basin management, protection of surface and subsurface water resources

- energy saving and efficiency in local (and regional) networks
- restoration of habitats
- Urban renewal of town centres
- resource efficiency
- energy efficiency / renewable energies
- regional material cycles
- Real estates ownership of grounds /lots/ comparison of allotment reforms
- Promoting and facilitatign energy efficiency
- Manegement of risk
- Services in tourism
- low-energy public property
- Energy development
- Promoting integrated local energy systems
- energy harvesting
- landuse change

HU

- green energy

IT

- sustainability of infrastructure and energy efficiency with solar and geothermal energy

PL

- development of technical infrastructure in the regions
- Development of cycling
- Urban rail transport and cycling
- Regional mobility – the network of roads and infrastructure for cycling
- investment in public and alternative transport

SK

- Public information
- Investment in high efficient use of biomass
- Resource efficiency = increasing employment opportunities
- Integrated Landscape Management
- Solutions or elimination of the negative impact on the environment, support for alternative sources as priority no. 1

Specific topics named for the subject of “sustainable transport and key network infrastructures”, sorted by countries

DE

- regional renewable energy
- measures for reduction of air polution
- building support structures which contribute to the improvement of SME profits

- value added through use of renewable energies in rural areas
- food production vs. energy plants

EN

- road safety
- improving access to different parts of the region with public transportation
- innovative transport modes
- Urban mobility
- promoting cross border railway systems, modernizing railway vehicles
- urban and regional environment creating less need for transport ("city of short distances")
- no weapon production
- Promotion of multimodality and comodality, road safety
- e-mobility integration in mobility networks
- mobility education – sustainable lifestyles
- Local transport / inner-city transport / non-motorized transport
- interoperability on IWW
- E-mobility
- THE MOST IMPORTANT IS CHANGE SYSTEM OF PLANING IN POLAND
- Water-borne (river and sea) transport and infrastructure
- Mobility for the ageing society
- Traffic Management, Telematics
- river water transport of people and goods, Pedestrian mobility
- improving mobility management services

HU

- transnational integrated public transportation system

IT

- upgrading of airport intermodal cross-border facilities and development of railway/intermodale and highway network

PL

- Increasing mobility of workers

Specific topics named for the subject of “employment and labour mobility”, sorted by countries

DE

- inner-city improvement of public transport
- alternative, new transport systems
- barrier freedom

EN

- Supporting self-employment, coaching and helping young entrepreneurs
- services to attract and retain for foreign high potentials

- Developing new/innovative methods of work with unemployed persons
- improving skills of the labour force and entrepreneurs
- no weapon production
- Infrastructure for flexible employment of all age groups
- firm behaviour and productivity
- active mobility promotion
- support to young entrepreneurs
- youth employment
- linking business with education and public sector

HU

- Labour market services and employment with the help of civic organisations

IT

- creating new jobs in tourism

PL

- Improving the quality and availability of medical services financed from public funds, improving governance in these units

SI

- Placements

SK

- Use of non-functional objects

Specific topics named for the subject of “social inclusion and combating poverty”, sorted by countries

DE

- succession regulations for SMEs
- structures need to be developed which maintain the regional economy after the age of fossile energies

EN

- support for bottom-up self-aid initiatives
- vocational training for disabled people,
- reorganisation of production and labour
- Justice in housing and residential environment quality
- support for recover material and immaterial culture
- Developing culture
- European Platform for special needs development
- social integration, neighbourhood developments
- no weapon production
- creating a sustainable economy by governing the commons

- self managed housing and urbanism
- Enhancing social cohesion, social identity
- support for non profit and voluntary work organisations
- Decayed area requalification to make a social change in these areas
- NGOs
- support for children socially excluded
- Creation of social institutions (more NGOs etc.)
- education
- improve access to social infrastructure
- inclusion of disadvantaged groups (if not colliding with ESF)

HU

- assuring sources for civic organisations fighting against discrimination

PL

- training courses
- school education, the opportunity to develop interests
- improve the management and elimination of social inequality
- efforts to offer associate R & D sector with the business

Specific topics named for the subject of “education, skills and lifelong learning”, sorted by countries

DE

- use of private capital for the building of rental flats

EN

- developing a modern and effective education and training infrastructure
- networking with associations for informal lifelong training and cohesion
- Ministry of Labour and Social Affairs, National Training Fund
- vocational training
- education on sustainability topic
- reorganisation of production and labour
- Early School Leavers
- Lifelong learning on entrepreneurship and on being a responsible citizen
- Multiracial and multilanguage training
- education integrated with real practice
- Recognition of informal competences
- education through cultural projects in artistic field
- no weapon production
- mobilities and best practices – transfer of knowledge and pilote project cooperation
- Certificate training courses for workers and professionals
- Developing thematic training programs
- Developing schemes and participation programmes on education and training infrastructure

- learning as a democratic process = government learning from civil society
- Efficient use of existing infrastructure
- developing new learning programs, reform of curriculae
- Company-demand oriented reorganisation of professional qualification structures
- networks for joint education
- combining old and new skills: map reading & orienteering – gps & navigation
- teaching modern financial courses
- modernisation of learning concepts
- cultural education
- awareness-raising campaign to show the advantages of knowledge
- occupational health and safety at work for OHS specialists
- exchange knowledge about using IT in schools, educational programs etc.
- Developing/adapting (new) teaching and training methods; Invitation of globally well-respected teachers/trainers to perform tr.
- education for architecture, housing and urban environment
- Bringing higher education in Europe together
- LLL strategy and its implementation
- improving training structures for SME's
- business oriented subjects (the need of industry)
- training in ICT and access to cultural heritage
- Developing of learning resources
- Support of crossborder cooperation in education
- developing effective teaching and learning methods, research about effective teaching and learning strategies
- young children motivation for learning and discovering
- develop mechanisms to enable and motivate rural population to participate in educational offers
- training especially for 50+ year old unemployed ex-managers wanting to create a business/invest in other SMEs

HU

- models of education and skills
- Supporting civic organisations for widening family based services and skills

SK

- Public information

Specific topics named for the subject of “institutional capacity and efficient public administration”, sorted by countries

DE

- creation of learning environment, informal learning (in associations), accessing underprivileged target groups
- increasing educational level
- regional cooperations for education

- old and new cultural technics (e.g. reading maps – navigation systems)
- networking
- governance, participation
- innovative, origin oriented regional development
- networks between schools/universities/education institutions and the economy/SME
- networking between educational institutions

EN

- Monitoring and measuring efficiency of public administration
- sharing best practice
- Develop and support of institutions for the third "P" in PPP
- Sports leisure, culture facilities and their networking in the region
- research cooperation between institutions
- Tackling the effects of demographic change
- Support of constant learning of municipal civil servants and elected representatives
- Administrative simplification
- cooperation of different actors from different branches/bodies
- strengthening development skills of local authorities
- Responsibilities and monitoring of the results
- Development of smart policies approaches to support the regional competitiveness
- integrated approach as precondition to support all other topics
- Integrated approach, networking
- Redesign of the existing system of public administration at the local and regional level
- dealing with diversity – age, class, sex, culture, race and holistic approaches
- Harmonize db on industrial risks
- Clusters of cultural institutions
- Cross-sectoral approach in the strategic planning
- e-government on all levels of administration
- getting foreign experience on practicing of multi-level governance
- cross border cooperation and networks
- ICT Security awareness raising
- strategy and integrated planning, councilors training programmes
- Migration management, collection of migration data

HU

- developing cross-border co-operations
- Supporting increase of human capacities for local development integrated in EU level in the 2014–2020 financing period

SK

- Support for the development of civil society through public information
- Environmental intelligence as an organic part of human intelligence
- Support for education for professions carried out manually

- Environmental and regional training
- New ways of education in the field of tourism
- Opportunity to find work for the graduates of vocational schools in the region
- Education of seniors
- Informing the public about environmental protection and waste management

Specific topics named for the subject of "other subject(s)", sorted by countries Other subject(s)

DE

- flexibilisation of the acting of administrations
- this also involves PP institutions and not only efficiency but effectiveness in the sense of an improved democracy

SK

- Electronic services, the central public administration portal
- Education of members of municipal councils on integrated regional development